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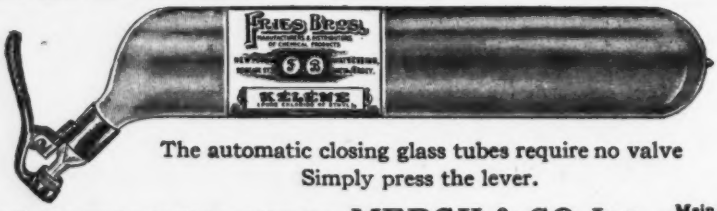

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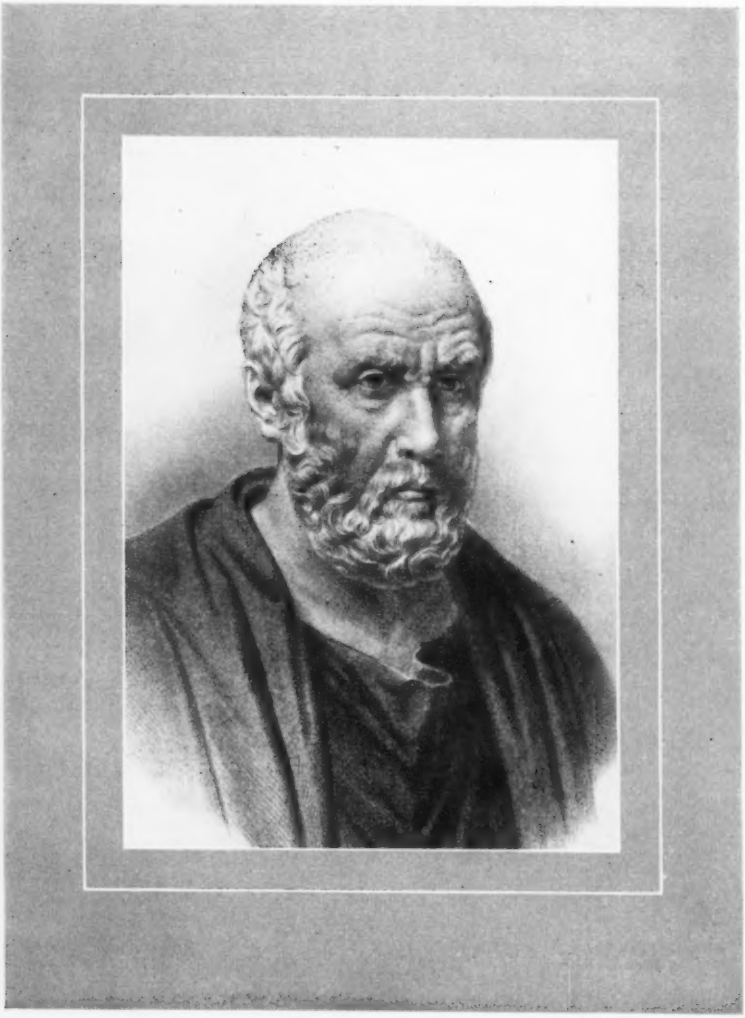

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CLINICAL MEDICINE AND SURGERY

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Hippocrates, the Father of Clinical Medicine

THE Age of Pericles—sometimes called the "Golden Age of Greece"—began about 450 years before the Christian Era, and it is said that never, before nor since, were so many men of genius in various lines gathered together in so small a time and space. Sophocles, Aristophanes, Socrates, Plato, Herodotus, Phidias and Hippocrates were among the numerous luminaries of that remarkable period.

The father of Hippocrates was of the hereditary priests of Asklepios—the Asklepiadae. His famous son was born on the Greek island of Kos (or Cos), at the beginning of the eightieth Olympiad (about 460 B. C.) and received his first medical instruction from his father. Later he studied at Athens and gained experience and practice in Thrace, Thessaly and Macedonia.

At that period there were two chief centers of medical thought: The Koan (identified with Kos) and the Knidan, whose center was the city of Knidos, on what is now called Cape Krio, on the south side of the Gulf of Cos, in Asia Minor. In both of these centers, medicine was inextricably mingled with theology, philosophy and transcendental metaphysics, the physicians acting as or with the priests, in time of peace, and as surgeons in war.

Hippocrates changed the entire outlook of Koan medicine and laid the first genuine foundation for clinical practice. He was, apparently, the first physician endowed with what we now call the scientific spirit and was destined to lift his profession out of the bogs of empiricism and superstition and lead it to the high, bright country of cool, unbiased observation and the making of accurate and truthful records. His were almost the only records of that kind for the next 1,700 years.

In the Knidan school, *disease* was preeminent and the aim was to make meticulously accurate diagnosis (often mistaking a mere symptom for a disease—an error not wholly unknown even today) and to apply specific forms of treatment. In certain particulars it was not unlike the ultra-refined diagnostic procedures and the strivings after specific therapy which have characterized the immediate past and even the present day, and from which we are only beginning to emerge.

Hippocrates (and after him, the Koan school) looked upon the *patient* as the true center of interest, and recognized disease as being, not an entity (a devil dwelling within him), but as a change in the condition of the patient's body, which affected the con-

tinual battle which goes on between the self-healing powers of the human organism and the various morbific agents which threaten its integrity. Thus Hippocrates was the originator of the type of medical thought which is once more gaining ground in the profession.

When we remember that this towering Greek had no instruments of diagnostic precision beyond an active and open mind and his five keen, trained senses, we are astonished at the accuracy of his descriptions of a variety of morbid processes. His pictures of phthisis, puerperal septicemia, mumps, epilepsy, the various forms of malaria, the acute respiratory diseases, dysentery, melancholia and a number of other maladies could, with some minor modifications, take their places in the most modern textbooks. The "Hippocratic facies" of those *in articulo mortis* is recognized, today, by all clinicians.

Above all things, Hippocrates was honest and sincere. He studied the patient, persistently and painstakingly—he really was the founder of bedside practice—until the true clinical picture began to stand out and become clear. And, having observed with care, he recorded with frankness, whether the results were especially creditable to him or not.

The central Hippocratic doctrine was that the condition of the body was governed by the proportions and relationships of the four humors—blood, phlegm, yellow bile and black bile—the correct mixing and distribution of which constituted health, while irregularities determined disease. In its original form this theory was discarded soon after the true science of medicine was born; but very recently the basis of that idea is coming back to us as the concept of individual peculiarities of resistance or susceptibility to disease. Indeed, the twentieth century is vindicating many of the Hippocratic dicta which were scornfully cast aside by more ignorant and (therefore) more self-conceited generations.

Nor does the fame of Hippocrates rest solely upon his enormous and revolutionary contributions to clinical medicine. He was also the earliest promulgator of a formulated enunciation of medical ethics; for, while the Hippocratic Oath (see p. 500) may not have been written by him, in person, there can be no doubt that he definitely inspired it and that it was the mature expression of his direct teachings.

A number of books are attributed to Hippocrates, and the controversy as to which of them he actually wrote and which were written by his immediate disciples is beside the point, for it is his genius which breathes through them all, even if his own hand did not pen the simple but lofty words in which they are couched. Chief among these works are: "Prognostics," "Aphorisms" (they read like shorthand notes taken at the bedside), "Of Epidemic Diseases," About Air, Water and Places" (the earliest treatise on climatology), and "Wounds of the Head."

While some of the ideas of Hippocrates may seem ridiculous to us, in view of recent scientific discoveries, it will be recognized that the following of his general diagnostic studies and his outline of treatment —fresh air, proper diet, purgation, bloodletting (under proper circumstances), a few simple decoctions (we have more potent drugs now, to be sure), massage and hydrotherapy—may well be made the foundation of professional success, today as well as 2,500 years ago.

The end of this Great One, like the beginning, is veiled in some obscurity, his age being variously reported at from 85 to 109 years, but it is fairly certain that his passing took place at Larissa, in Thessaly, somewhere about the year 370 B. C.

Every physician can well emulate the example of the Father of Clinical Medicine and of Medical Ethics, and all should give him his meed of admiring respect and sincere thanks for his contributions to the science and art of healing.

Beware when God lets loose a thinker; then all things are at stake.—Emerson.

Freedom and Independence

ON THE fourth day of July, 1776 (one hundred and fifty-three years ago), a group of fifty-six courageous men signed a document which materially altered the course of the world's history. This remarkable state paper is known as the Declaration of Independence and was supposed to make the people of the United States free and independent of all other nations, but especially of Great Britain.

Now, freedom and independence mean more than simply a severance of political ties. After this famous document was ratified we were technically and politically independent of our mother country, but we were not so in fact. We still depended upon her for our culture, the basis of our laws, our literature and most of the comforts and conveniences which redeemed the lives of our forefathers from the rigors of a more or less raw and semi-barbarous existence.

For many centuries no nation has been independent of other nations, except in the narrowest political sense, and the world is even more closely tied together now than it ever has been in the past. We depend upon the East Indies for most of our rubber; on Mexico for much of our oil; on the West Indies and South America for a good deal of our sugar and coffee; on Japan for the greater part of our tea and silk; and so on, until a reasonably complete list of the material things representing our dependence would fill a considerable volume—to say nothing of the imponderables, such as music, literature, scientific discoveries and intellectual and emotional stimulation, furnished to us by other nations.

Our Congress constantly (and very properly) considers the reactions which its enactments will produce in other countries; and we may be sure that all of the foreign governments have the United States in mind when their law-making bodies are in operation.

Let us not make the rather puerile mistake of flattering ourselves that we are, in truth, an independent nation, or of feeling that it would be desirable that we should be so.

As for freedom, that is a still more unusual possession. The enormous majority of the world's inhabitants, even in those countries where the greatest latitude is allowed to the individual, are in bondage to their heredity, their environment, their fears, their habits, their superstitions; to public opinion, the established conventions and to their own inertia.

National independence, even if obtainable in these complicated days, would not, by any means, be wholly desirable. Individual independence does not consist in thumbing one's nose at the rest of the world, and is a mere form of words, unless we would be willing to set the clock of time back a few hundred years, to the days when every man was his own carpenter, cabinet maker, weaver, tailor, cobbler, baker, plowman, cook and artisan of all the other various types which are now so thoroughly specialized.

And yet, while we must depend upon others for the physical mechanisms of our daily lives, both personal and national, we can develop an independence of thought and spiritual vision which will free us from many errors and inconsistencies. Individually we can cultivate our intellectual and emotional powers to the point where we do not have to look to others or to any extraneous circumstance for our joy and entertainment. And that is very well worth doing.

Freedom is not synonymous with license, and is attained only by learning the laws of nature and conforming our lives to them activities. We conquer life only by obeying its rules.

We cannot be free so long as we fear; and the only remedy for fear is *adequate* knowledge—not that little portion which is "a dangerous thing." We cannot be free so long as we are bigoted and intolerant and jealous and envious. Freedom is an *inner* thing, which comes only when we realize that the material circumstances of our en-

vironment are but transitory appurtenances to our real lives, and can look upon all of them with the same equanimity with which we contemplate discarding last week's newspaper.

Independence we cannot have, for the whole universe is a series of mutually interlocking parts; but freedom may be the possession of any man who desires it with sufficient ardor and concentration to pay the price in lesser things which must be paid if we are to come into possession of this or any other worthy and valuable faculty or power.

The effect of orthodoxy and of the principle of Authority upon the mind is to paralyze it. Only when *any* idea may be challenged, without fear of reproof or ostracism, is there real freedom.—Bishop Irving S. Cooper.

Cinchophen and Neocinchophen

THE research chemists have given us a number of highly effective drugs not found, as such, in nature, among which are the cinchophens.

Cinchophen itself is, chemically, phenylquinolincarboxylic acid; neocinchophen is the ethyl ester of the methyl salt of this acid. Two other less well known but similar products are *Chloroxyl* (phenylcinchoninic acid hydrochloride) and *Atoquinol*, in which the methyl radical in neocinchophen is replaced by the allyl radical. The dosage and therapeutic properties of all these compounds are practically identical.

Cinchophen is a white, crystalline powder, of acid reaction and slightly bitter taste, insoluble in water but soluble in alkaline solutions and in hot alcohol.

Neocinchophen resembles the older substance, except that it is neutral in reaction and practically tasteless.

Action: The physiologic effects of the cinchophens have not been fully worked out, but it is definitely known that they cause diuresis, with a marked *increase in the excretion of uric acid* and a corresponding fall in the quantity of this substance in the blood and tissues. They appear to be unable to dissolve uratic masses which have been deposited. They are also distinctly *analgesic* and *antipyretic*.

Untoward Effects: The acid character of cinchophen may cause some gastric distress, in sensitive persons; but neocinchophen, being neutral, does not do so.

The irritant effects, sometimes produced upon the kidneys by the cinchophens, are similar to those resulting from the administration of the salicylates, but are neither so frequent nor so marked. Albuminuria rather rarely occurs, except after very large doses; and while this condition sometimes appears during the first few days of the use of cinchophen, it often *disappears* as the treatment is continued. It is well, however, to watch the urine closely when giving these drugs, especially in large doses, and if albumin is found in considerable quantities, or persists for more than two or three days, to suspend their administration for two or three days, and then resume, with smaller amounts. Transitory skin eruptions are occasionally seen.

The cinchophens are *contraindicated* in the presence of gastric irritation or inflammation, in nephritis and where concretions are present anywhere in the urinary tract. They are not, however, in general, so toxic as are the salicylates; and neocinchophen is even less toxic than cinchophen.

Uses: The great field of usefulness of the cinchophens is in *gout, acute rheumatic fever* and other allied conditions, and in that somewhat vague but fairly well recognized condition known as the "*uric acid diathesis*." Though the fact has not been demonstrated experimentally, there appears to be a definite connection between the uric acid content of the blood and the various symptoms usually lumped together as "rheumatic."

In *acute rheumatic fever*, the pain, erythema and exudates generally subside within 12 to 24 hours after giving proper doses of the cinchophens, and the fever after 48 to 60 hours. In some cases they act well when salicylates fail to give complete relief;

and they are indicated where the toxic effects of the latter drugs are especially marked.

In *gout* (especially the acute form) these remedies are superior to colchicine or the lithium salts, being, in fact, almost specific.

Neuralgias, sciatica and *headaches* generally yield promptly to their analgesic effects, and for such purposes they are superior to and less toxic than aspirin (acetylsalicylic acid), which is so widely used by laymen. (A prescription for these products will not be so likely to be refilled or passed on by the patient to friends as will one for the more familiar salicylates).

Eye infections in persons of a "gouty tendency" are said to be, to a large extent, prevented or relieved by the cinchophens.

Acute coryza, if seen in its early stages, may frequently be cut short by two or three 10-grain doses of cinchophen, at 2-hour intervals, accompanied by 10 or 15 Grams of sodium bicarbonate and abundance of water.

Administration: In gout and the more chronic forms of "rheumatism," the usual dose is 7½ to 15 grains (0.5 to 1.0 Gm.), three or four times a day. The tablets should be crushed in a glassful of water, either plain or alkaline, and followed by 3 to 5 Grams (roughly, half a teaspoonful) of sodium bicarbonate to each 15 grains (1.0 Gm.) of cinchophen, dissolved in another glass of water. Free water drinking should be the rule whenever these drugs are being used, and it is well to reduce all foods rich in purin bodies—meats, cheese, etc.

In acute rheumatic fever, it is well to begin with larger doses—30 grains (2.0 Gm.) every 2 hours for several doses, and then every 4 hours, reducing the size and frequency of the dosage as the symptoms ameliorate.

While these drugs have been given in large amounts and over long periods—21 Grams (315 grains) in three days and 440 Grams (6.600 grains) within a space of four months—it is well to use them with circumspection, especially at first (some people possess an idiosyncrasy to them); to alternate several days of administration with several days of rest; and to watch the urine closely for signs of kidney irritation.

These are not drugs which can safely be sold to the laity, over the counter, for promiscuous self-medication, but in the hands of an intelligent and careful physician (as all powerful remedies should be) they constitute very valuable additions to the professional armamentarium, for the treatment of a peculiarly difficult and often refractory type of disease.

Nothing may cost so much as a remedy that has cost too little—*Jottings.*

Bios

THE past decade has been especially notable for the discovery and isolation of substances which have to do with the processes of life. We are now coming to what appears to be a reasonably accurate knowledge of some of the hormones and vitamins, and are turning this information to practical, clinical use.

It has been rather generally believed that there must be some definite factor governing the growth of living organisms, and this has been sought in the hormones and vitamins, but with only partial or inconclusive results.

As long ago as 1922, Hoet called attention to a substance which promoted the growth of yeast, and which was not vitamin A or B. This hypothetical substance has been called *Bios.* In the same year Fulmer and Nelson declared that Bios is not a single substance, but consists of at least two fractions.

In 1924, Miller confirmed the observation that Bios is not simple, and recognized what he called Bios I and Bios II, remarking, further, that preliminary experiments indicated that there is still another fraction.

This substance has been found in wort, in the tips of barley rootlets, in mushrooms, egg white and malt (Bios II) and, in fact, in most of the foodstuffs which have been

studied. Suzuki and Taira found a Bios-like substance in commercial sugar and stated that they had extracted Bios from orizanin and found it to be insoluble in water and other ordinary solvents, but soluble in alkalis, forming salts with organic and inorganic bases, and precipitated by acids.

Eastcott stated, in 1928, that Bios has been isolated from tea dust and is identical with inactive inositol (a cyclohexane).

So far as experiments have been reported, it appears that the growth of yeast and the processes of fermentation are impossible, except in the presence of a certain quantity of Bios; but it will not cause rats to gain in weight nor prevent pigeons, fed on a diet lacking vitamin B, from developing neuritis.

Up to this time, the evidence that Bios has actually been isolated in a reasonably pure form is rather unconvincing; and no clinical significance has yet been ascribed to it. But one never knows what a year may bring forth (consider Viosterol!), and it is a wise idea for all physicians to have some information regarding all of the newer biochemical substances with which the researchers are experimenting and which may assume practical importance almost overnight.

Old age now brings; not wisdom, but golf.
Bernard Shaw

Birth Control Today

CONSCIENCE is largely a product of the customs of the time, and hypocrisy seems to be gaining ground among us. The spectacle of persons in high places loudly advocating one line of conduct and personally practicing the exact opposite is significant, if not especially edifying.

Like several other intimately personal matters which have been subjected to the activities of the nose-poking uplifters of other people's business and behavior, contraception has come in for some very drastic regulatory enactments, largely sponsored, one would imagine, by old maids of both sexes and by those who were personally practicing the crude and unsatisfactory methods which, for many generations, have been clandestinely communicated by word of mouth and behind the hand.

Birth control is not a matter of religion or of personal morality, but one of public policy, sociology and biology, and it should be studied in this latter light, calmly and scientifically, without prejudice or bias, strictly on its intrinsic merits.

In this issue appears an article on the subject, with several of whose postulates we definitely disagree. We publish it because we feel that our readers are entitled to hear both sides of all important matters connected with Medicine.

It would appear that the author is unfamiliar with the valuable work which has been done recently by the American Birth Control League, 104 Fifth Avenue, New York City, as his comments are applicable to the older and less reliable and satisfactory methods which are very generally in vogue, but only in slight degree to the newer technic recommended by the League.

The law forbids us to publish contraceptive information in this country, but encourages us to disseminate knowledge regarding the prevention of venereal disease. In Great Britain the prohibitions and encouragements are reversed. We are law-abiding citizens, and so we abstain from the publication of details; but there is no reason why any interested physician should not write to the League for its publications.

Briefly, the methods of contraception which are described as unreliable and injurious are those of the past, which, because of taboos, have never been studied or recommended on any scientific basis.

The fact remains, however, that birth control is essentially a development of civilization, and that only rather highly civilized persons, who possess a considerable degree of intelligence and self-mastery, can practice it adequately and satisfactorily. In such

hands it is now as reliable as any of our other prophylactic measures; in others it is not.

Contraception is here to stay, the same as automobiles, telephones, airplanes and the radio, and the sooner we decide to study it in the cool, impersonal manner in which we deal with our other twentieth-century problems, the better for all concerned.

It is, indeed, extraordinary to observe, on the one hand, the pains parents take to respect a child's stomach, and on the other, to see their utter ruthlessness and disrespect for the youthful mind and spirit.—Dr. George Draper.

The Management of Tuberculosis

IT *SEEMS* a curious anomaly that our medical schools give so large a part of their time to consideration of the rarer maladies, and so little, comparatively, to teaching the students how to diagnose and treat the commoner abnormal conditions. In particular, clinical and bedside instruction in tuberculosis—perhaps the most widespread of all diseases—is, in many institutions, decidedly inadequate.

In a good many sanatoriums for the care of tuberculous patients, even today, the idea seems to be prevalent (or, at least, the physicians, nurses and attendants *act* as though it were) that once a man has been infected with the tubercle bacillus he becomes, in some strange way, immune to all other medical and surgical disorders and requires treatment only for the pathologic state which brought him to the institution.

As a matter of fact, a man with tuberculosis is just as subject to all sorts of diseases (perhaps more so) than is his nontuberculous brother. He may have appendicitis, gall-stones, diabetes, hay-fever, stone in the kidney, dementia precox, scarlatina, hallux valgus, syphilis or any other of the hundreds of conditions described in the textbooks; and these require just as skillful treatment (perhaps more so) than would be needed if he were otherwise normal.

Some tuberculosis sanatoriums are waking up to these facts and are taking appropriate action to correct the deficiencies which are too prevalent. Notable among these is the Chicago Municipal Tuberculosis Sanitarium.

Recognizing the fact that it is impossible (even if it were advisable) to hospitalize all tuberculous patients, but that there are many who do need such management, for whom no accommodations are available, the authorities of this institution have enlarged and strengthened the cooperation with the out-patient clinics and the visiting nurse system; have endeavored in all practicable ways to shorten the stay of patients in the Sanitarium, so as to make its facilities available to more people; have established a pneumothorax clinic at one of the dispensaries, in order to relieve the hospital of part of its overload; and have broadened the scope of the program for the education of ambulant tuberculous patients and other laymen, regarding the prevention and cure of this malady.

To meet the need for skillful treatment of all sorts of medical and surgical disorders to which its inmates may be subject, it is being organized along the lines of an efficient general hospital (including a surgical service with modern equipment), staffed by experts, many of whom are connected with the various important medical schools in Chicago.

In order that the tremendous body of clinical material may be made available for purposes of instruction, a regular schedule has been planned, including a twelve-weeks' course of intensive training in the diagnosis and treatment of tuberculosis, for undergraduates (this course is now required by three of the Class A medical schools in the city); a number of resident clerkships, for senior students who want to go into the matter in more detail; a system of graduate instruction; short postgraduate courses for practicing physicians who want to refresh their ideas and technic along this line; and special courses for persons who desire to qualify as experts in one or more of the sev-

eral phases of the management of tuberculosis.

An institution organized along these lines should be of enormous service, not only to those unfortunates who have acquired a tuberculous infection, but to the entire community, in many ways, and to medical education in general.

Science cannot save lives or cure disease until it is applied.—*The Lancet*, London.

The Problem of Deafness

IF A MAN loses an arm or a leg, the loss is obvious to everyone (unless or until he acquires an unusually good artificial limb), but he experiences no sense of shame because of his handicap. One wonders why it is that persons whose sight or, especially, whose hearing is failing frequently seem to be so sensitive about their infirmity and conceal it as long as it is possible to do so, so that deaf persons often refuse to avail themselves of the excellent mechanical aids which are now at their disposal.

The anatomy, physiology and pathology of the eye is now rather well understood and measures for the relief of failing vision are taken with a reasonable degree of certainty and hopefulness; but the deaf man receives, as a rule, no such degree of sympathy, comfort and help as is warranted by the gravity of his loss.

Blindness is a terrible affliction to any educated person, who lives largely on the plane of the intellect and depends upon reading for his supply of mental pabulum. But think of the loss, to a sensitive man, (or woman) when the sense of hearing is destroyed! The joys of music, the voices of his loved ones, the songs of birds, the murmur of brooks and of the wind in the trees, and all the manifold sounds of the world's life and activity exists only in memory! He is isolated, even in the society of his friends!

Nor is deafness solely a matter of personal inconvenience and distress. The deaf man is incapacitated for the practice of a number of professions and other vocations for which he may have spent years in qualifying himself, and must completely reorganize his life to meet the new conditions, as well as suffering the constant strain of social adjustment, from which latter struggle he, not infrequently, escapes by becoming a recluse.

If deafness is, as often happens, due to otosclerosis, the medical profession is at a loss, for, not understanding what causes it, we are unable to set about an intelligent search for a cure. This condition appears, moreover, to be transmitted by heredity.

There is urgent need for intensive and extensive study of the causes of deafness, particularly of otosclerosis, and, in 1926, the Carnegie Corporation made a grant of $90,000 to the scientific committee of the American Otological Society, for the purpose of initiating such studies, with the idea that, within five years, a permanent endowment fund of $2,500,000 would be raised, by popular subscription, for carrying on the work.

Medical discoveries do not come by chance. Each forward step is the result of long and painstaking study and experimentation, by highly skilled men. Such researches cost a great deal of money—but they are worth it!

The Society is now soliciting contributions to its Research Fund ($500,000 are needed immediately), and such a contribution looks like a worthy investment in human happiness and progress.

LEADING ARTICLES

Uterine Hemorrhage and its Treatment by Radium

By Harold Swanberg, B.Sc., M.D., F.A.C.P., *Quincy, Ill.*

Radiologist, St. Mary's Hospital and Blessing Hospital; Director, Quincy X-Ray and Radium Laboratories.

A STEADILY increasing number of general practitioners and general surgeons have become interested in radium therapy in recent years, because the technic of administration is becoming more standardized and the dangers connected with its use thereby materially reduced. Nowhere is this more manifest than in the use of radium in certain gynecologic conditions.

Probaby the greatest achievement of radium therapy is in gynecology, and in this special field certain conditions of the uterus are most responsive to proper radium treatment. The purpose of this paper is to discuss the usefulness of radium in combating one of the symptoms of uterine disease—hemorrhage.

Uterine hemorrhage is only a symptom, and before considering any therapy to control it, we should first endeavor to ascertain its cause. It is interesting to note that uterine hemorrhage is very prevalent, being one of the most frequent conditions the gynecologist is called upon to relieve.

Uterine hemorrhage occurs as one of two types: (1) menorrhagia, or (2) metrorrhagia. Menorrhagia is an excessive menstruation, being either prolonged in duration or increased in amount, or both. Metrorrhagia is a uterine hemorrhage in the intermenstrual period—an untimely bleeding.

Causes of Uterine Hemorrhage

There are many causes for menorrhagia or metrorrhagia, but all arise from one of the following conditions:

1.—Conditions of the pregnant state.
2.—Changes in the uterine tissues not due to pregnancy or new growth.
3.—New growths.
4.—Those of endocrine origin.
5.—Diseases of adjacent organs.
6.—Constitutional disease, acute or chronic.
7.—Foreign bodies.

The principal indications for radium are in Nos. 2 and 3 of the above classification.

Success in the radium treatment of uterine hemorrhage, like that with every other form of therapy, depends primarily upon an accurate diagnosis being established. A carefully taken history and a thorough gynecologic examination should precede radium or any other treatment, in order to ascertain the pathologic changes present and the condition of the adjacent parts. It should be understood that *radium is not indicated in all types of uterine bleeding.*

Indications for Radium Therapy

Radium is indicated, within certain limits, in the following uterine conditions, all of which may have hemorrhage as a symptom:

1.—Malignant tumors.
2.—Benign tumors (fibromyomata).
3.—Simple functional, menorrhagia or metrorrhagia.
4.—Menopausal and premenopausal hemorrhage.
5.—Chronic metritis.
6.—Subinvolution.
7.—Uterine fibrosis.
8.—Chronic endometritis.
9.—Membranous dysmenorrhea.
10.—Puberty hemorrhage.

11.—Chronic endocervicitis and cervicitis.

12—Uterine and cervical polypi.

Probably the most frequent cause of uterine bleeding is conditions associated with the pregnant state — ectopic gestation, threatened abortion, etc. Radium therapy has no place in these conditions, with the possible exception of some cases of uterine subinvolution.

1.—In 50 percent of the women who have uterine hemorrhage after the establishment of the menopause, some form of malignant disease of the uterus is present.

Radium is the method of choice, by many of the foremost gynecologists, for carcinoma of the uterine cervix, no matter at what stage the disease is discovered. Surgery has no place in the treatment of the disease, with the possible exception of the first stage, which is infrequently seen. The Radium Institute of Paris reports 72 percent living one year after radium treatment of cervical cancer, with 27 percent alive and free from cancer at the end of 5 to 6 years.

In carcinoma of the body of the uterus, a preliminary radium treatment should be given to control the hemorrhage and build up the patient, which is to be followed, in from three to six weeks, by complete hysterectomy, including both tubes and ovaries.

2.—In patients more than 35 years of age, a sterilizing dose of radium is the ideal treatment for controlling the hemorrhage in uncomplicated cases of uterine fibroids. As a rule, one such treatment is all that is required.

3. A single sterilizing dose of radium will control the bleeding in more than 90 percent of the patients suffering from simple functional uterine hemorrhage. It is the ideal treatment in patients more than 35 years of age.

4.—Radium is practically a specific in menopausal or premenopausal hemorrhage; about 95 percent of such patients being clinically cured following a single sterilizing dose.

5-8.—In patients over 35 years of age, suffering from chronic metritis, endometritis,, uterine subinvolution or fibrosis, radium therapy gives good results. Sterilizing doses are necessary and frequently several such treatments, at two- to three-month intervals, are required.

9.—Non-sterilizing doses are quite efficacious in patients suffering from membranous dysmenorrhea. Pain is relieved and the menstrual function is not disturbed, if the proper dosage is applied.

10.—Small doses of radium are almost a specific in puberty hemorrhage. It must, however, be used with utmost care, so as not to damage the ovaries, and should not be employed until all other measures have been found ineffective.

11.—Non-sterilizing doses of radium are indicated in chronic endocervicitis and cervicitis, especially when the chief symptom is leukorrhea. Curtis (professor of gynecology, Northwestern University) reports 87 percent recoveries, in 104 patients treated with radium.

12.—In uterine and cervical polypi, the growths should be removed surgically. If this is immediately followed by proper radium treatment, no recurrence will take place.

Contraindications for Radium

The principal contraindications to intrauterine radium applications are:

1.—History of pelvic inflammation.

2.—Associated pelvic disease or pregnancy present.

3.—Subserous and pedunculated uterine fibroids.

4.—Very large uterine fibroids (size of five-months' pregnancy or more).

5.—Radium should always be used with great caution in patients of 35 years or younger.

When, in any of the above conditions, the use of operative interference is impossible, radium treatment may be resorted to quite justifiably, and frequently with good results. Many times, with large uterine fibroids, there has been a heavy flow, with severe secondary anemia, which makes such patients poor operative risks. In such instances radium may be used to check the hemorrhage and render the patient a good operative risk for eventual hysterectomy.

Construction of the Radium Applicator

In most cases of non-malignant uterine bleeding, a 50-milligram radium applicator, adequately screened, is the proper one to use. The physician will take less chances

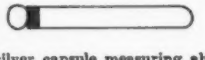

Fig. 1.—A silver capsule measuring about 3.5 mm. in diameter, containing 50 mg. of radium. The walls are 0.5 mm. thick. (Shown actual size).

Fig. 2.—Brass capsule (with flexible wire attached), the walls of which are 1 mm. thick, containing the silver capsule holding 50 mg. of radium.

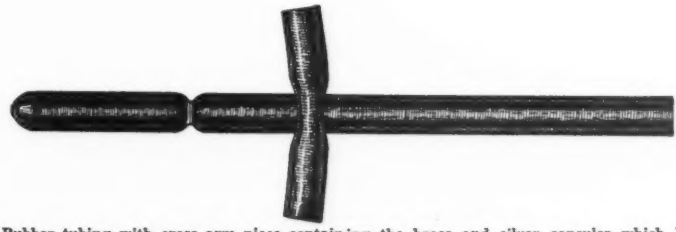

Fig. 3.—Rubber tubing with cross arm piece containing the brass and silver capsules which hold 50 mg. of radium. This is an ideal applicator for treating the body of the uterus. It is about the length and thickness of an ordinary lead pencil. The short cross-arm piece fits against the cervix and holds the tubing in position when gauze is packed against it. A wire is attached to the capsule containing the radium (inside the rubber tubing) which makes the applicator semi-rigid and facilitates ready insertion. The applicator can easily be bent to conform to the direction of the uterine canal.

if the radium is so filtered that the gamma rays only are used, and some arrangement provided to absorb the secondary rays generated in the walls of the filters. This may be accomplished in a very satisfactory way by placing the radium in capsules of 0.5 mm. of silver and 1 mm. of brass, respectively, the whole being covered with rubber tubing about 2 mm. thick.

In the applicator we use, there is a brass or silver wire attached to the brass capsule containing the radium, the whole being enclosed in a piece of rubber tubing with a blind end. The radium capsule is tied in position at the blind end of the tubing. A short cross-arm rubber piece which may be readily moved is placed on the applicator. This fits snugly against the cervix when the portion containing the radium is properly introduced into the body of the uterus. When sufficient gauze is packed into the vagina against the cross-arm rubber piece, it holds the tube in correct position. This does away with the necessity of stitching the applicator to the cervix to maintain its position. Due to the wire in the rubber tubing the radium applicator is semi-rigid, which greatly facilitates ready insertion, and at the same time permits the applicator to be bent to conform to the direction of the uterine canal.

Fig. 4.—This illustrates how the radium applicator appears when properly placed in the uterus, in patients with uterine hemorrhage, fibroids or carcinoma of body of uterus. The applicator is maintained in correct position by voluminous gauze packing.

Technic of Applying the Radium

The patient is given castor oil and a douche the night previous to the planned treatment, and several cleansing enemas and a douche the following morning. A general anesthetic may or

may not be necessary. A scopolamine-morphine hypodermic injection will usually make the application painless and keep the patient comfortable.

Under strict aseptic precautions, the cervix is gently dilated, sufficiently to introduce the radium applicator. In most patients, especially in those over 35 years of age, a uterine curettage should be done and a specimen preserved for microscopic examination. The length of the uterine canal should be determined by means of a sound and the cross-arm rubber piece on the applicator so adjusted that, when the radium is in the body of the uterus, the cross-arm piece will fit snugly against the cervix. A little K-Y Jelly placed on the end of the applicator will facilitate ready insertion.

Following the insertion of the applicator, the entire vagina, including the anterior and posterior fornix, is packed with gauze. This must be done carefully, the purpose being to keep the radium in position in the uterus, while holding the rectum and bladder away. These latter parts are quite sensitive to radiation. If the packing is thoroughly done it requires about ten yards of two-inch gauze, in the average patient.

The patient should be kept in bed in the prone position the entire time the radium is in the uterus. If unable to void, she should be catheterized every six hours. While the radium is in place some patients will complain of nausea and vomiting. This, however, is usually not marked and disappears almost routinely with the removal of the radium After removal of the radium, the patient is placed in the Fowler position and permitted to be up the following day. A simple, nonirritating, vaginal double (daily) is advisable for about a month after the treatment.

Radium Dosage

One of the most important points in the treatment of uterine conditions with radium is the proper dosage, especially in the initial treatment. This depends principally upon the age of the patient, except in malignant conditions, when large doses are necessary, regardless of age.

In patients 35 years of age or less, 500 milligram-hours of radium (50 milligrams for ten hours) is considered the maximum dosage for non-malignant conditions. A dosage greater than this may cause sterility and early menopause.

In patients more than 35 (preferably 40 years or more) the usual dosage is 1200 to 1500 milligram-hours (50 milligrams for 24 to 30 hours). This is considered a "sterilizing dose" and, in the majority of patients, one such application will bring about the menopause, with complete cessation of all uterine bleeding.

Uterine malignant tumors require larger doses of radium to control.

All conditions of the cervix require a slightly different technic of applying the radium than has been given above.

Results of Radium Treatment

Most patients suffering from non-malignant uterine hemorrhage will be entirely relieved by one sterilizing dose of radium. The hemorrhage may be relieved immediately, but more frequently it gradually diminishes and stops in about a month or two. A few patients report an excessive flow at the period following the application of the radium, which is likely to happen if the radium is applied just before the expected period The ideal time for applying radium is immediately upon the cessation of menstruation. When this is done, very frequently the patient never flows again, if a sterilizing dose is administered.

Since the results of radium treatment may be prolonged, it is not advisable to consider a second application until eight weeks have elapsed. When sterilizing doses are given, one or two menstrual periods may occur before complete amenorrhea takes place. A watery discharge or persistent leukorrhea may appear for some weeks after a large dosage of radium. This is caused by the local reaction of the radium, and gradually subsides. It is usually so insignificant that, unless the patient's attention is called to it, she makes no complaint. There is a gratifying sequel—a persistent leukorrhea is frequently cured by the treatment.

About 50 percent of the patients suffering from non-malignant uterine hemorrhage will be relieved by one non-sterilizing dose of radium. The results are not so certain as when the larger doses are applied. The rest of such patients will require two or more non-sterilizing doses of radium, given at two- to three-month intervals to control the bleeding. The general post-menstrual history in these patients is that a period of amenorrhea takes place, varying from two

to three months, with ultimate reappearance of the normal flow. A few patients (about 20 percent) will completely fail to respond to these small doses of radium.

Radium Versus Surgery

Radium should not be looked upon as a competitor of surgery in gynecology. It is far better that both radium and surgery be regarded as useful methods in the cure of certain uterine conditions and intelligent selection, based upon careful consideration of the peculiarities of each case, should determine which is to be used.

The best proof of the value of radium is the fact that it is constantly being applied and recommended by the foremost surgeons and gynecologists, in those conditions amenable to its use.

Dr. Howard A. Kelly, Johns Hopkins University, says: "It is generally agreed that present-day gynecology is certainly both medical and surgical and that radium has possibilities that the general rank of the profession fails to grasp."

Dr. W. C. Danforth, formerly assistant professor of gynecoolgy, Northwestern University, declares: "Bleeding from the uterus, occasioned by non-malignant fibroids, and those which result from 'uterine insufficiency' form a numerous class of cases in which radium therapy is of great value. We have, upon the gynecologic-obstetric service of the Evanston Hospital, made use of radium for the treatment of about 200 cases of bleeding from non-malignant causes—myopathic or climacteric bleedings or fibroids. Of these, a trifle more than 90 percent have been relieved by one application. Radiation, is without doubt, the treatment of election in a large percentage of non-malignant bleedings of the uterus."

Many more such statements, from other prominent gynecologists, could be appended. It should be remembered that these men are *surgical* gynecologists, not radiologists, yet they use and prefer radium to surgery for certain uterine conditions.

Radium has the following advantages over surgery:

1.—There is no operative mortality.

2.—Usually a general anesthetic is not necessary, hence there is little or no shock.

3.—There are no infections, hemorrhages or other post-operative complications.

4.—The patient is not confined to bed or the hospital for a long period.

5.—Should radium fail, operation is always possible.

6.—Menopause symptoms are not so marked and occur only when large doses of radium are used.

7.—Radium can be used when surgery is feared, as when heart disease, extreme anemia, tuberculosis, diabetes or chronic nephritis exists as a complication.

Summary

1.—Radium therapy is the method of election in a large percentage of uterine hemorrhages.

2.—Success of radium treatment depends on: (a) accuracy of diagnosis; (b) proper applicator and technic of application; and (c) adequate dosage.

3.—Radium is not a competitor with surgery, both being useful methods which require intelligent selection for their use.

4.—The application of radium in uterine hemorrhage is comparatively simple, and may be successfully made by the qualified physician or surgeon, under the supervision of an experienced radium therapist.

Conclusion

Radium is one of the most valuable additions to the gynecologist's armamentarium today. It has enabled him to manage, without operation, a large percentage of uterine hemorrhages.

It is usually much easier to persuade a patient to submit to a simple procedure such as the application of radium, than to gain her consent to undergo a major operation. Many women, from fear of the knife, suffer from some type of uterine hemorrhage and postpone consultating a physician until wrecked mentally and physically. With a better understanding of the wider use of radium, fewer women will be ordered to a hospital for what is considered a serious operation. The knowledge that a simple radium application will frequently offer relief (where a mutilating operation was indicated only a few years ago) should make women anxious to consult physicians early.

The progressive physician of today is alive to the remarkable results of radium in properly selected cases of uterine hemorrhage. He is either administering the treatment himself, under the supervision of an experienced radium therapist, or is directing his patients to a qualified radiologist.

Deviations from the Standard*

By Otto Leyton, M.A., M.D. (*Cantab.*), D.Sc. (*Lond.*), F.R.C.P., *London, Eng.*
Physician to the London Hospital

WE in England recognize that the United States has made enormous advances in the study of Medicine, and the authorities of the larger hospitals realize their responsibility in bringing these advances to the aid of the suffering poor in the wards of their institutions. To facilitate this they are in favor of having the men whom they elect to the honorary staff spend some time over here, carrying out research work and studying the methods which you have elaborated. Not only are they in favor of sending qualified men, but also their hospital nurses, when opportunity offers.

When these visitors return to us, often they bring with them tables—sheaves of tables—based upon the average or standard. These tables, in the hands of the experienced, are of great value, but those who have little opportunity of using them tend to exaggerate their value and raise them to an importance second only to those tablets which Moses brought down from Mount Sinai.

I should like to draw your attention to a deviation from the standard which, in the past, has led me and others astray and has made us diagnose disease when none has been present.

In order to make this comprehensible, I must point out that, sometimes (not always), it is easy to arrive at the average or standard, but extremely difficult to define what deviation from that standard is an individual peculiarity and to distinguish that from an illness. At first sight it seems to me that the more accurate the apparatus we possess the greater the difficulty.

Fever

For instance, before we possessed clinical thermometers there must have been but little difficulty in deciding whether a patient was feverish or not. The flushed face, the hot skin, the rapid pulse and perhaps delirium led the experienced physician to a definite conclusion.

A short time ago I asked some of my colleagues at what temperature they thought pyrexia began: One replied, at 99.6°F., and another, at 101°F.

If the accepted definition of "Truth" be, "that which satisfies", then neither of my colleagues was speaking the truth. It would not be wise to say that a man was feverish because his temperature was 100.4°F. due to exercise, and as you know, the temperature of most of us will rise to that height if we run a mile; nor would it be wise to say that a man with a temperature of 99.6°F. is not feverish, in certain circumstances.

These difficulties in definition give us food for reflection, but are comparatively simple when compared with individual peculiarities. Most of us have met healthy people whose normal temperatures have been 97.6°F. or below.

These are not arguments against the use of accurate instruments, but illustrate that, although it may be quite easy to define the normal average or standard, it is extremely difficult to decide what deviation from the standard is of importance.

Blood Pressure

Let me take one other illustration with which you are all well acquainted—the blood pressure. Perhaps it would be more accurate for me to say the pressure, in a rubber bag four inches wide, which is required to obliterate the pulse at the elbow when applied to the upper arm.

Most of the instruments in use to-day do not measure the systolic pressure—a fact which can be shown quite rapidly and clearly by applying a plethysmograph to the forearm. It will be found that the volume of the arm increases whilst the bag is supposed to be just obliterating the artery.

What is the "standard blood pressure"? Many have attempted to reply to this. Some assert that, when it is measured in millimeters of mercury, it is the age in years added to one hundred. It is now more than thirty years ago that I first took a blood pressure measuring apparatus into a ward of a hospital, and during that time I have seen more and more importance attached to its readings.

*An address delivered at the meeting of the Interstate Postgraduate Medical Association of North America, at Atlanta, Ga., Oct. 19, 1928.

To-day many patients come to the physician stating that they are suffering from high blood pressure. When I am faced with this diagnosis I enquire whether the patient has any symptoms or whether the diagnosis is based entirely upon the fact that the blood pressure apparatus records a pressure higher than the average. In the latter case many tests must be carried out before the diagnosis of disease is pronounced.

I can call to mind a very wonderful old lady, the widow of England's most famous biologist, who for the latter ten years of her life had a systolic blood pressure, measured by the Riva Rocci apparatus, of over 280 mm. Hg. The only symptom that developed was a minute hemorrhage into one eye, and at the age of 87 she died from a condition which, so far as we know, has no relation to blood pressure.

No doubt many of you have seen cases somewhat similar, and also the reverse; namely, blood pressures of 125 mm. Hg. in patients of 70 years and more who have been hale and hearty and have shown no evidence of myocardial disease.

I am told that you have somewhat different laws in different states. May I suggest that there should be different standard blood pressures in different states, too. It is difficult to believe that the same average pressure occurs in Alaska as in Georgia. An average blood pressure, in a country that reaches almost from the equator to the pole, seems to me to be of little more value than an average skin color for the inhabitants of the State of Georgia.

Diabetes Mellitus

I should now like to draw your attention to the deviations from the normal which have presented themselves to me during the past few years, whilst I have been specially interested in diabetes mellitus.

Many years ago the diagnosis of diabetes mellitus followed the reduction of Fehling's solution by the urine: Later it was recognized that many substances besides dextrose reduced Fehling's solution, such as pentose, levulose, lactose, glycuronic acid and several others.

It is doubtful whether many errors in diagnosis were made in these early days, because the urine, at that time, was examined for sugar only when thirst, polyuria, etc. suggested disease.

Later, the diagnosis of diabetes mellitus was reserved for true glycosuria, and then Saloman showed that individuals might pass dextrose in the urine without the sugar in the blood rising above the normal average, and this condition he called *renal glycosuria,* because his first few cases had albuminuria in addition.

It is now recognized that the peculiarity is not of the kidney, and hence the name has been replaced, first by that of diabetes innocens, which is a bad name, because there is no diabetes—in other words, no thirst and no polyuria. Many call the condition *orthoglycemic glycosuria;* whilst I suggested the name of *negligible glycosuria,* because it is not of importance.

Low Renal Threshold

A very pronounced case of this peculiarity came my way several years ago. After the administration of 50 grams of dextrose, by the mouth, the sugar in the urine rose to over 10 percent, although the sugar in the blood did not exceed 0.16 percent.

These numbers seemed so unusual that I thought it wise to have them confirmed at two laboratories, by different observers.

Not only is the renal threshold different for different individuals, but it varies from time to time in the same individuals. Some time after a meal it tends to fall.

A boy of 14 was given 50 grams of dextrose, by the mouth, after a meal containing considerable quantities of carbohydrate. The result appears in Fig. 1.

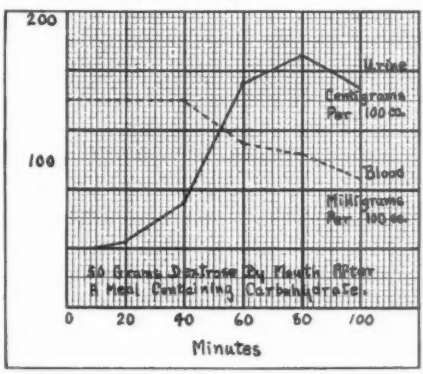

Fig. 1

It may be noticed that the concentration of the sugar in the urine rises, whilst that in the blood falls, and this occurs even if we take into consideration the residual urine of the pelvis of the kidneys and ureters.

Many others have made similar observations amongst them your distinguished expert on diabetes mellitus, Dr. Paullin.

In my experience, this peculiarity of a low renal threshold for sugar does not protect from diabetes mellitus. I have seen one case of a man with a low renal threshold develop diabetes mellitus; and amongst my cases of diabetes mellitus, nearly 0.5 percent have a low renal threshold.

Since Dr. Joslin has said that he had never seen diabetes mellitus develop in an individual with a low renal threshold, there must be some difference in the people on the two sides of the Atlantic.

One case made a great impression upon me—a military man who was getting on in years and who developed thirst, lost weight and had glycosuria and hyperglycemia.

When placed upon a diet and given insulin, the concentration of sugar in his blood was kept between 0.08 and 0.16 percent throughout the 24 hours but, in spite of that, he passed quite a lot of sugar in his urine.

One day he said to me, "I believe you are giving me 'monkey gland,' not insulin, because there is still sugar in my urine, but undoubtedly I am feeling very much better and now when I walk down Bond Street I am interested in seeing what is under the hats".

This patient had to be taught how to estimate the sugar in his blood, in order that he might take an intelligent interest in his complaint.

This peculiarity of low renal threshold for sugar seems to be inherited and may perhaps have some relation to diabetes mellitus. Many of these cases, in which I have found a low renal threshold for sugar, are children of parents with the same peculiarity, whilst four have diabetic parents. I have seen two sisters, daughters of a diabetic mother, one with true diabetes mellitus and the other with a low renal threshold for sugar. This family failing has been worked out very fully by Dr. Urban Hjarne.

Utilization of Carbohydrates

Having seen that there are deviations from the standard in the excretion of pentose, lactose, etc., and also in the renal threshold for sugar, I should like to pass on and discuss the standard rate of burning and storing carbohydrate.

Many years ago, Woodyat and Sansum showed that, after a fast of 24 hours, a healthy man might have dextrose poured into his veins at the rate of 0.8 grams per kilogram of body weight per hour, without glycosuria occurring. In my experience the average Englishman is not so competent a kataboliser of sugar.

Although my experience of the intravenous method of introduction of sugar has convinced me that it is the more accurate, because it eliminates the errors due to different rates of absorption through the intestinal tract, nevertheless I have been forced to make most of my observations after oral administrations, because many of my patients have never entered a hospital.

A Simple Test

I have devised the following method for determining the rate at which sugar is burnt and stored:

After a fast of twelve hours, the patient's blood is taken and the sugar in it estimated. Then he receives a definite dose of grape sugar, dissolved in water and flavored with lemon juice. The dose of grape sugar depends upon the concentration of sugar in the blood after the twelve-hour fast. If it be low, 60 grams of sugar is given. If it is high, as little as 20 grams may be considered to be the best dose. If too big a dose be given the test would be prolonged over too many hours. At intervals of half an hour or less, samples of blood are collected and the bladder is emptied, all the urine being kept. The test is continued for at least three hours.

By estimating the sugar in the samples of blood, one is able to determine how long it has taken for the sugar in the blood to fall to 0.12 percent, or to what it was before the sugar was administered.

Having found this time, the urine passed during that period is mixed, measured and the sugar and urea in it are estimated. The quantity of sugar is subtracted from the dose given, and the amount of sugar which may have been liberated from the protein which has been broken down is added. This latter figure is arrived at by multiplying the urea excreted by 1.7.

Some may criticize me adversely for adding this quantity, saying that it is far from certain that, in the metabolism of a healthy man, the carbohydrate part of the protein molecule is at any time converted into dextrose.

I admit this, but meet the criticism by

drawing attention to the fact that, when the efficiency of carbohydrate metabolism is good, the addition of this liberated sugar makes but little difference in the result; whilst, when the carbohydrate metabolism is poor, there is no doubt that the greater part of the carbohydrate liberated is actually turned into dextrose.

Observations upon a number of healthy individuals and individuals with a low renal threshold show that about 60 grams of dextrose can be stored or burnt per hour, when administered by mouth. The method measures fairly accurately, and is therefore, in a way, comparable with the thermometer and sphygmomanometer.

This method permits one to note the progress of a patient by repeating the test at intervals and for this reason, in my opinion, is of very great importance for diagnostic purposes.

An untreated case of diabetes mellitus may go downhill rapidly. These curves are

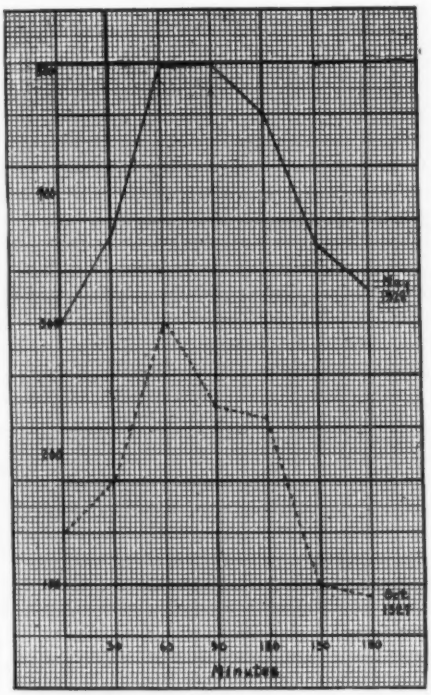

Fig. 2

from a patient who had a mild glycosuria and a low renal threshold for sugar, which was discovered when he attempted to insure his life shortly after an operation.

I decided that the depression of his carbohydrate metabolism might be due to a recent anesthetic, anxiety and poor general health, and advised him to take a holiday and return for further examination in four weeks time. He did not take a holiday nor did he present himself until six months had passed, and during that time the disease had made great progress. The carbohydrate metabolism efficiency had fallen from 55 to 24 percent.

When Does Disease Begin?

The question arises as to what fall in carbohydrate metabolism constitutes disease.

Whenever a tissue alters slowly, the time at which disease begins is not a fixed hour; different observers would give different times. Hyperthyroidism may progress quite far in a phlegmatic individual before it appears to become a disease, whilst a very slight increase in the activity of the thyroid gland in a "live wire" would show itself definitely and immediately.

Many years ago the diagnosis of diabetes mellitus was comparatively easy, because the disease was not recognized until thirst, glycosuria and wasting were present: Now the diagnosis is far from simple.

Perhaps the time has come when the name of the disease should be changed, because the diagnosis of the complaint may be made before there is thirst or polyuria and before there is persistent glycosuria.

Hypoglycopyresis, although cacophonous, conveys the meaning that the power of burning sugar is depressed. When that depression is due to pancreatic disease, the term *subinsulism* seems appropriate.

At the present day, the diagnosis of diabetes mellitus should be reserved for patients who either present symptoms or are unable to katabolise more than 25 percent of the normal average of sugar or are gradually losing the power of katabolising carbohydrate.

To show that these limitations are necessary, I should like to draw your attention to a series of cases which, in the past, would have been diagnosed as diabetes mellitus but which, in my opinion, are simply cases of a congenital carbohydrate metabolism considerably below the average.

Miss D. T., aet. 31, had nursed her brother for diabetes mellitus and examined her own urine, which she found reduced Fehling's solution. She went upon a diet and later was sent to me for investigation.

I found that her renal threshold was low—in the region of 0.16 percent—but, in addition to that, the sugar in her blood rose to 0.20 percent after a lunch consisting of meat, vegetables and ice cream.

After a breakfast including marmalade, the sugar in her blood did not rise above 0.12 percent. The explanation of this I think may be due to pancreatic fatigue, a subject which time does not permit me to discuss in detail.

When Miss D. T. was submitted to a carbohydrate metabolism efficiency test, the sugar in her blood rose to 0.25 percent and took quite a long time to fall. She proved to have a carbohydrate efficiency of 33 percent. (See Fig. 3).

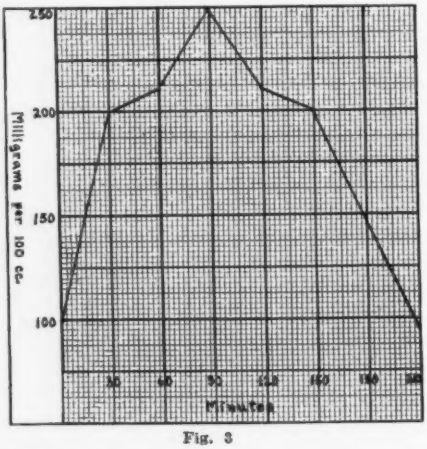

Fig. 3

This is considerably worse than that of the case of diabetes mellitus referred to above.

The brother of Miss D. T. was submitted to similar tests and his carbohydrate efficiency was found to be a little lower than that of his sister.

These two patients had not had symptoms of diabetes mellitus, but the male had had intermittent glycosuria for some years.

After due consideration of the circumstances, which were quite exceptional, I came to the conclusion that I was justified in advising these two patients to eat and drink whatever they liked for a year, and then be submitted to similar tests again.

This was done and their efficiency was found to be somewhat better, rather than worse.

There are so many possible explanations for this improvement that it would be but a waste of time to discuss them here. I came to the conclusion that these patients were not suffering from diabetes mellitus, in spite of the fact that their power of burning and storing sugar was much less than the average.

If any one prefers to take the view that the two patients were cases of mild, non-progressive diabetes mellitus, which obviously needs no treatment, I shall be the last person to contradict him, because his definition of illness will be different from mine, and it is useless for two people to argue when they do not attach the same meaning to one another's words.

Having decided that these two cases were not cases of illness, I looked through my notes of cases and came to the conclusion that the condition is not so very rare and that quite a number of patients are upon restricted diets when they might, with impunity, eat and drink whatever they like.

Please do not let anyone think that I advocate departure from the rule, "Treat every patient who passes dextrose in his urine as a case of diabetes mellitus, until there is satisfactory evidence that the patient is not suffering from that disease".

Summing up the deviations from the standard which are not, so far as we know, diseases, and yet have appeared to be, we find:

(1) Pentosuria, levulosuria, lactosuria, etc.

(2) Low renal threshold for sugar.

(3) Temporary, short hyperglycemia following a meal.

(4) Low carbohydrate metabolism, probably congenital.

I cannot refrain from referring to one more deviation from the standard which occurs in diabetic patients. In the majority it is found that their metabolism permits a greater amount of fat than carbohydrate being given in the food. This is so frequently the case that many physicians have no time to study the exceptions; those who have time find that nearly two percent can utilise more carbohydrate than fat.

The study of socalled inborn errors in metabolism makes us realise that there are many and varied deviations from the standard, which can be recognized with comparative ease and are *not diseases.*

I cannot help thinking that, although the metabolisms of all men bear a great similarity to one another, they differ in detail, just as do our faces. All possess the same features, but each face differs in detail. I

doubt whether our faces differ more than our metabolisms.

One of the most convincing pieces of evidence that the metabolisms of different people are different, exists in the fact that blood hounds are able to track different people by their scent. If the metabolisms of all were identical, the volatile substances elaborated would be identical, and dogs would be unable to distinguish people by their scent.

92, Portland Pl. W1.

The Diagnosis of Pulmonary Tuberculosis*

By Benjamin Goldberg, M.D., F.A.C.P., *Chicago*

TUBERCULOSIS is, as yet, one of the five most important causes of death. While lowering of the mortality rate has been uniform and gratifying, there are still, nevertheless, in this country approximately 450,000 individuals suffering with the disease. In the face of such a huge morbidity range it must be apparent that the importance of diagnosis can not be overstressed. Early diagnosis is fundamental if suitable and effective therapy is to be established. A favorable result depends, in essence, upon the discovery of the disease in the early stage when proper measures tending toward a walling off or healing of the disease process may be applied.

Unfortunately, the problem of diagnosis has not been sufficiently emphasized in the past in our medical schools. Many or most of the schools, to date, have not adequate facilities for detailed student instruction in the elements of this most important disease. As a consequence, the average physician today who, in practice, builds on the foundation which he laid in medical school, has not been trained sufficiently in the finer points of diagnostic technic. In many instances, the physician is content to wait for and abide by the evidence of a positive sputum. Valuable time is lost; when the available evidence is at hand, when the sputum has become positive, the disease process has frequently extended to an advanced stage; the most propitious moment for the treatment has passed.

To bear out this statement, in 1928, in the dispensaries of the City of Chicago Municipal Tuberculosis Sanitarium, which organization I have the honor to direct medically, there were 3,773 new cases of pulmonary tuberculosis diagnosed. Of this number, 2,196, or 58 percent, were already in the advanced stages of the disease when they came to the dispensary for examination. These figures are indicative of the necessity for greater stress in diagnosis and also, of course, of the necessity for more thorough educational propaganda.

Tuberculosis, an infectious disease of the respiratory tract, produces, in the course of its spread, a toxin which aids in destruction of tissue. In tuberculosis, then, we see, not only constitutional manifestations, the result of toxin production, but, in addition, local irritative manifestations, the result of the disease process in the tissue. Unfortunately, these two phenomena, tissue destruction and toxin production, are not confined to or peculiar to tuberculosis. Other infectious processes involving the respiratory tract may produce a toxemia quite similar to and very difficult of differentiation from the toxemia due to tuberculosis. In addition, other infectious processes involving the respiratory tract may produce local manifestations which simulate tuberculosis so closely as to be almost indistinguishable.

It is evident, then, that the recognition of tuberculosis, particularly in the early stage, is no simple matter. The diagnosis constitutes a problem which can not be handled in a haphazard way. Even in advanced cases, at times the diagnosis may be quite complicated. Not infrequently we see cases of bronchiectasis, lung abscess, foreign body and such conditions diagnosed as cases of advanced tuberculosis.

This paper deals with the features that are of most importance in establishing a definite diagnosis, thus:

Contact or Exposure

Sufficient attention is not being devoted to the element of contact or exposure. In

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speaking of contact I refer particularly to contact with an active or open case of pulmonary tuberculosis. According to our present ideas, infection with tuberculosis usually occurs in childhood.

As a result of this childhood infection there may result acute disease—meningitis, peritonitis, acute pulmonary tuberculosis—in the early years. Usually, however, according to our present conceptions, the infection remains latent or dormant as a walled-off, parenchymal lesion, described by Ghon as the primary tubercle. The infection may also lie dormant in the adjacent lymph glands. In either case, adolescent or young adult life, because of lowered resistance incident to stress and strain, is liable to bring about a crisis. Reactivation of the dormant lesion, with progress of the disease, is apt to occur.

Owing to the fact that a definite history of contact gives us a valuable clue as to the existence of a childhood infection, with a resultant latent disease focus, it is essential to examine the personal history carefully for evidence of contact or exposure. One must not merely take the word of the patient as to whether the parents or relatives suffered from or died of tuberculosis. One must not forget, in attempting to determine a history of exposure to tuberculosis, that very frequently the patient, though denying a history of "tuberculosis in the family," will unconsciously give information strongly indicative of exposure. The patient may mention a coughing parent, aunt or uncle, or a grandparent, perhaps, who suffered for years with a chronic bronchitis or asthma which, in reality, was a fibroid tuberculosis. Careful questioning, in the case of an intelligent patient, may fix the conviction in the clinician's mind that the patient in question was undeniably exposed to open tuberculosis.

In addition to establishing the fact of contact, the clinician should also attempt to determine, insofar as may be possible, the degree and intimacy of such contact. Manifestly a history of exposure, as a child, to continued, massive infection, over months or perhaps years, is of more importance clinically than a history of slight or intermittent exposure.

Pleurisy

Every pleurisy which occurs in the absence of an acute respiratory infection should be considered as tuberculous until proved otherwise. Chest injuries and such chronic conditions as intrathoracic malignant disease may, of course, cause pleurisy. In such cases, however, the etiologic relationship of the pleurisy is, as a rule, sufficiently easily established. We may reiterate, then, that pleurisy in the absence of an acute respiratory infection must be considered tuberculous until exhaustive and thorough consideration has ruled out this possibility.

One must, however, bear in mind that the patient's unsupported statement relative to the previous existence of pleurisy is not final. Unless the pleurisy had been diagnosed by a physician, the fact of its existence should not be accepted unless the pain has been sharp and cutting, has occurred at the height of a deep inspiration and has been of some duration.

Other Diseases Predisposing to Tuberculosis

A word concerning other diseases predisposing or said to predispose to tuberculosis. Textbooks mention such diseases as measles, whooping cough and influenza. It is intimated that individuals suffering from such diseases are prone to a diminution of supposed immune bodies in the blood stream and, for this reason, are rendered more susceptible to the disease. This fact, however, has not been proved. We do feel, however, as does Krause, that many acute respiratory infections, with the incidental stress and strain of coughing may, as a result of such strain, bring about a break in the fibrotic wall of a latent tuberculous focus. Such a break of tissue continuity will permit liberation of tubercle bacilli from the focus and their spread to adjacent tissue, creating what is termed an endogenous reinfection.

In influenza, the strain of coughing may break down adjacent lesions and cause reactivation and spread. Strictly speaking, however, influenza, operating in this manner, can not be said to be causative of or predisposing to tuberculosis. The strain of the coughing incident to the influenza, and not the influenza itself, is the causative factor.

I believe also that, during an epidemic, an exacerbation of an already existing fibroid tuberculosis is frequently mistaken for influenza. Fibroid tuberculosis, walling off and eliminating as it does, more or less effectively, the tuberculous process, curtails absorption of toxins and so permits periods of quiescence and apparent health. Occa-

sionally, for one reason or another, a break in the preventive mechanism occurs; a greater absorption of toxin results; and the patient reacts with rising temperature, increased pulse rate, malaise, etc. Such a symptom complex closely simulates influenza and, during an epidemic, may be erroneously diagnosed as such. A brisk hemorrhage may draw attention to the true lesion and roentgenologic examination may disclose a long-standing fibroid tuberculosis.

Hemoptysis

As regards bleeding we should, first of all, exclude hemorrhage due to nasal or postnasal bleeding, pharyngeal oozing, or hematemesis. It must be borne in mind that approximately 75 to 80 percent of all individuals suffering from pulmonary tuberculosis, at some time or other during the course of the disease, will expectorate blood from the lower respiratory tract.

The presence of hemoptysis then, definitely established as such, is of very great significance.

Moist Rales

Moist rales, occurring above the hilum about the level of the third rib anteriorly, which are constant and which occur especially at the height of deep inspiration or upon forcible expiration (cough) should, in the absence of acute respiratory infection, be considered as due to a tuberculous process until proved otherwise. Approximately 95 percent of chronic infections found in this pulmonary area are tuberculous; on the contrary, only about 5 percent of chronic infections which are primarily at the base are essentially tuberculous.

Roentgenologic Findings

Roentgenologic examination should be routine in every case. The x-rays, in some instances, reveal a lesion of considerably greater extent than was indicated by clinical examination. On the other hand, in the early case, the x-rays are frequently disappointing. Stereoscopic plates are, of course, advisable. Careful study of the shadow densities and interpretation based on experience are factors of considerable value.

Tubercle Bacilli in the Sputum

The finding of tubercle bacilli is, of course, in the immense majority of cases, conclusive. It must, however, be recalled that there is a possibility of error. In a community in which isolation of the open case is enforced, and in which children, by law, are not permitted to reside in the same home with active cases, this is a matter of very great importance. A laboratory diagnosis, incorrectly made through error of technic or other cause, may work a serious injustice to the patient and his family. The patient, especially if he lives in a city, may conceivably have a few bacilli adherent to the mucosa of the mouth or pharynx, received by inhalation or otherwise. It is not impossible or even improbable that such bacilli may become detached and appear on the slide.

We must remember that certain articles of diet, particularly milk, may be infected with tubercle bacilli. In the community in which cattle testing is not practiced, in which the "infected" herd is the rule, 6 to 10 percent of the milk supply contains tubercle bacilli. Bacilli from such milk may cling to the serous or mucous exudate of the upper air passages and may later appear on the slide. Even thorough pasteurization does not absolutely rule out this possibility of error. The process of pasteurization may kill all bacilli present in the milk; the dead organisms may, nevertheless, be seen on the slide and lead to an erroneous diagnosis. For the sake of certainty we demand that tubercle bacilli be present in greater numbers than one or two to a slide and that, in doubtful cases, they be present in at least two or more specimens.

On the other hand, we must recall that examination for the typical form of the tubercle bacilli is not always sufficient. We must bear in mind that, in a small percentage of cases of fibroid tuberculosis, etc., atypical bacillary forms are present which are not recognizable by the usual staining technic. One such form was described by Much and is called Much's granules. These atypical organisms take a modified Gram stain. They may, in animal inoculation, be regenerated within the peritoneal cavity. They may also, I believe, be regenerated or metamorphosed into the typical form of the bacillus by new cultural methods recently described.

Tuberculin

Some physicians are still inclined to consider the ordinary dermal tests, such as the von Pirquet, Moro or Dermotubin reaction, as being diagnostic of the existence of actual tuberculous disease. It must be emphasized

again that these tests are indicative of infection rather than of disease. The dermal reactions indicate that tuberculous infection, with a subsequent allergy due to sensitization, has occurred; the skin tests, consequently, are of value only in the young child, as a means of determining whether or not tuberculous infection has taken place.

It must be borne in mind, furthermore, that a negative reaction may occur in an actually ill or moribund child in whom allergy has been lost due to an overwhelming infection. The subcutaneous test, utilizing one-tenth, one-half or one milligram of old tuberculin, produces, in the presence of tuberculous disease, a local reaction at the site of inoculation, a focal reaction indicative of reactivation in the area of the lung involved and, finally, a systemic or constitutional reaction, the result of absorption of toxins from the activated process.

The subcutaneous test, while of course diagnostic, is accompanied by very definite dangers. The constitutional reaction, indicated by rising temperature, increased pulse rate and flare-up of toxemic manifestations, implies a spread of the tuberculous process. We can, by the use of the subcutaneous test, arouse a focal or constitutional reaction. We can, in other words, cause the spread of the disease. Unfortunately, we can not, with equal certainty, bring about arrest of the reactivated process.

Consequently the use of the subcutaneous test for the purpose of diagnosis must be condemned. Its use is justified for purposes of exclusion rather than for purposes of confirmation. We may, occasionally, feel justified in using the test to establish a negative diagnosis—a diagnosis to exclude tuberculosis. We should rarely, or perhaps never, feel justified in exposing an individual whom we believe to be tuberculous to the possibilities of an activation of his lung lesion.

Summary

The personal and family history, the clinical evidence, and the laboratory findings, each has its place of importance in the problem of diagnosis.

1.—In the family history the question of exposure and the duration and extent of such exposure hold deep significance.

2.—A history of pleurisy which occurs in the absence of an acute respiratory infection is significant.

3.—Many of the other acute diseases, associated with respiratory symptoms and said to be predisposing influences, are such because of mechanical rather than physiochemical reasons.

4.—History of hemoptysis is significant, if hematemesis and bleeding or oozing from the pharynx and nasopharynx can be ruled out.

5.—Moist rales occurring above the hilum, constant, and noted at the height of deep inspiration, should, in the absence of acute respiratory infection, be considered tuberculous until proved otherwise.

6.—Roentgenologic findings, particularly through the medium of stereoscopic plates, offer valuable corroborative evidence.

7.—The finding of tubercle bacilli, in the great majority of cases, is conclusive. There are, however, possibilities of error which should not be overlooked.

8.—The cutaneous tuberculin tests are indicative of infection rather than of disease and, consequently, constitute no criterion on which to base a diagnosis of active tuberculosis. The subcutaneous test is accompanied by definite dangers and should be used only as a final measure to exclude tuberculosis in individuals who are, we are inclined to think, non-tuberculous.

104 South Michigan Avenue.

A True Gentleman

A man that's clean inside and outside; who neither looks up to the rich nor down on the poor; who can lose without squealing and can win without bragging; considerate to women, children and old people; who is too brave to lie, too generous to cheat and too sensible to loaf; and who takes his share of the world's goods and lets other people have theirs, is my idea of a true gentleman.—Prof. Edgar L. Patch.

Calcium Chloride in Postoperative Wounds

By Harry G. Clark, M.D., *Detroit, Mich.*;
Donald V. Clark, M.D., *Detroit, Mich.*;
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OPERATION wounds, as a rule, will heal of themselves if given time, but many of them, particularly those which must heal by granulation tissue, do so very slowly and with the production of an insufficient amount of fibrous tissue. One often sees abdominal wounds, which have apparently healed normally, stretched to a width of one or two centimeters and the covering skin of tissue-paper thinness. These wounds bulge when the patient coughs. The underlying scar in the muscle has also stretched. Such a scar is a weak spot in the abdominal wall and is a potential source of hernia.

In 1924 Addison, of Toronto, treated two cases of chronic ulceration by means of calcium chloride and demonstrated a marked and prompt acceleration of healing produced thereby. It was decided to attempt to produce the same results in healing postoperative wounds. This paper records our observations in twenty-four (24) consecutive cases so treated.

A mixture containing calcium chloride was administered to each patient on the tenth day after operation and daily thereafter until the observations were completed. The dose was varied from 45 to 120 grains (3 to 8 Gm.) a day, according to the age and weight of the patient. Oral administration was used in all cases, the following prescription being employed:

℞ Calcii Chloridi.....℥i (32.0)
Syr. Aurantii, q.s. ad.....℥iv (120.0)

The dose, when well diluted with water, was taken without objection by all but two patients, although it is very unpleasant to the taste and will occasionally produce some gastric distress. No local treatment was given to the wounds because of the possibility of complicating the observations; dry gauze dressings alone were used. The 24 cases treated include: 11, whose wounds healed by first intention; 7, whose wounds opened through postoperative infection, such as stitch abscess; and 6 in whom the peritoneum was drained, four having had gangrenous appendixes, one a ruptured gastric ulcer and one drainage of the gall-bladder.

Firmer Scars

Most postoperative wounds, on the tenth day, have a bluish appearance; the granulations are not clean, but are covered with exudate; the discharge is thick and copious. The patient is, at this time, languid, pale and has a poor appetite. In other words, he is, to a greater or less extent, toxic.

In the cases treated with calcium chloride, the following phenomena were noticed: Three to five days after treatment was started, the wounds changed to a brighter color. In those cases where healing was by first intention, the line of the wounds became less blue and more red—decidedly red in most cases. At the end of one week, the line of the wounds was still red but thicker. At the end of three weeks, the line of the wounds was elevated above the surrounding skin, was wider than before and might be picked up between the thumb and forefinger—a definite keloidal condition was present beneath the epithelium. Six months afterwards, the same keloidal condition was present, the scars had faded in color, were from two to five millimeters in width and slightly elevated above the surrounding skin. On palpation beneath the epithelium the deeper tissues seemed to have taken part in the same change. These scars showed no tendency to stretch.

In this series of cases were two patients who were pregnant at the time of operation; in one the gestation was of two and a half and the other of four months' duration. In each of these cases a four-inch incision was made for the removal of an acutely inflamed appendix. Both wounds healed by first intention. Both cases went to full term of gestation. In neither of them did the wound stretch, although there were many white lines over the remainder of the abdominal wall.

More Active Granulation

In those cases where the wound was open, more of the process could be observed. The granular surface became redder and showed

a tendency to bleed, which is apparently due to a more rapid circulation of the blood through the capillaries. The healing surface became clean and the discharge therefrom thinner and more serous. In two cases of ruptured appendix, the markedly offensive fecal odor became negligible in three days. The granulation tissue grew rapidly and became heaped up above the surrounding skin, again producing the typical keloid. Owing to the difficulty of clinical observation, no conclusions could be drawn relative to the speed of epithelial growth over these granulations. Such a question could more easily be answered by controlled animal experimentation.

As to the systemic effect of calcium chloride on the patient, our series is too small and includes too great a variety of conditions to allow us to form any very definite opinions. However, in four of the six drainage cases, coincident with the wound changes, the patients showed definite signs of improvement. Their color became better, their appetites improved and their general strength and feeling of well-being increased. These observations were too consistent and were noted too uniformly after the administration of calcium chloride to be attributable to anything but the salt.

Overdose

One case, in which an overdose was given, will be reported in detail.

J. H. P., aged eleven years, had gangrenous appendicitis. Appendectomy was performed and the peritoneum drained. The early convalescence was uneventful. The administration of ninety grains of calcium chloride a day was begun on the tenth day. Fifteen days after the operation, the patient was feeling quite well and could not be kept in bed.

On the sixteenth day, two hours after the second dose of the drug for that day, he collapsed, became pale, cyanosed and exhibited air hunger. He was seen in this condition an hour after onset. His respirations were 38 per minute; his pulse rate was 120 per minute; his blood pressure was 80/32 mm. Hg.

One hundred and twenty (120) grains (8 Gm.) of sodium bicarbonate were administered, with a large quantity of water. One hour afterwards the patient looked and felt quite normal again, except for a slight tiredness. The dosage of calcium chloride was reduced to 30 grains (2 Gm.) a day and there was no recurrence of the above symptoms and no untoward happenings.

One important observation to note here is the sudden onset of symptoms when the limit of acid tolerance was reached and the sudden recovery when the acid-alkali equilibrium was restored.

Comment

When one gives calcium chloride by mouth, not only calcium ions are administered, but also chlorine ions. In most of the literature on the subject, however, the calcium alone has been considered. Haldane has shown that most of the calcium so ingested is excreted as inert carbonates and phosphates in the stool. The chlorine, being then free, unites with the alkali of the body, chiefly sodium bicarbonate, and is absorbed into the blood stream, thus:

$$CaCl_2 + 2NaHCO_3 = CaCO_3 + 2NaCl + H_2O.$$

The sodium chloride is excreted in the urine.

This destruction of the sodium bicarbonate and other similar alkaline salts of the body produces a diminution of the alkali reserve, a prompt output of highly acid urine and a relative acidosis. Calcium chloride, administered intravenously, will not produce acidosis nor reduce the alkali reserve to the same extent, because this introduces into the blood stream the full quantity of basic calcium ions. Also, one cannot give the same quantity intravenously as by mouth and so the physiology of the two methods of administration varies markedly.

It is true that calcium chloride will raise the ionized calcium of the blood stream slightly. Nevertheless, this does not alter our previous concept that the chlorine ion is the essential factor, because the administration of huge quantities of other salts of calcium, such as the lactate, carbonate and citrate, will not produce the physiologic changes nor the therapeutic effects that are obtained with the use of calcium chloride by mouth. Lately, dilute hydrochloric acid was given to a patient postoperatively, and it produced a scar which was indistinguishable from those produced by calcium chloride.

It is interesting to note that, sixty years ago, the dean of McGill University, Dr. George Campbell, advised his students to administer tincture of iron perchloride in large doses to assist in the healing of boils, carbuncles and indolent ulcers. The action of this drug, in regard to its chlorine content, is physiologically similar to the action of calcium chloride. Also, this tincture contains large quantities of free hydrochloric acid.

Addison, of Toronto, has recently reported the healing of a chronic ulcer of the

foot following the administration of calcium chloride and potassium citrate. This ulcer promptly enlarged when the patient was given a daily dose of 120 grains (8 Gm.) of sodium bicarbonate. This suggests that excessive alkali in the body may delay healing, and that the reduction of the body alkali by the administration of calcium chloride is a factor in our therapeutic results.

Is the reaction of the endothelial cells of the capillaries under slight acidosis similar to the increased activity of the protozoa when the hydrogen ion content of their environment is slightly raised?

Is the acidosis, associated with many diseases, necessarily an evil? Or is it, like moderate pyrexia, a beneficial and protective mechanism?

Conclusions

1.—The administration of calcium chloride in large doses can assist in the healing of postoperative wounds.

2.—The subsequent scars are stronger than those in untreated cases.

3.—The result is due to a stimulation of the growth of granulation tissue.

4.—The stimulating factor is quite probably the relative acidosis produced by the reduction in the alkali reserve.

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Preventive Medicine in Venereal Disease*

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A *STRICTURE* of the anterior urethra may cause a pus kidney: a vesicular infection, a chronic invalid! The effects of the sequelae of a simple gonorrheal infection are much more wide-spread and serious than are often recognized and are frequently entirely overlooked in our search for the cause of asthenic states.

The most important sequelae of gonorrheal urethritis are:

1.—Infiltration of the anterior urethra—soft or hard; local or circumscribed.

2.—Folliculitis.

3.—Prostatitis and seminal vesiculitis.

4.—Epididymitis.

These conditions represent two types, the first showing symptoms and signs due to structural changes in the tissues; the other, focal infection, with its effects on the general metabolism.

Embryology

To know how to prevent and to treat such conditions, we must first know why they develop and why they effect remote parts of the system; so we must go back to the embryonic stage, where we find that, from the anterior half of the cloaca, from its upper part, the bladder develops and, as an offshoot, the ureter and pelvis of the kidney. Extending downward it forms the posterior urethra, with shoots developing into the prostate gland. From its lower half, the urogenital sinus forms the anterior urethra with the crypts of Morgagni, lined with urethral epithelium, and the glands of Littre, lined with true secreting cells. From this part also develops the Wolffian duct, which later becomes the vas deferens, and from which a bud develops into the seminal vesicles.

The arterial supply has a common origin, the veins empty into a common vessel and the nerve supply is entirely from two interrelated plexi. So we see that, from the renal pelvis to the tip of the urethra, and including all the associated glands, the development is from a common origin, fed by the same vascular supply and supplied by nerves from a common center, the entire area being actually a unit of development, so that disease of one part, through the close relation-

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ship, is bound to affect, more or less, all other parts of the unit.

Course of Invasion of the Gonococcus

The gonococcus, from its point of infection, usually just behind the meatus, spreads on the surface of the urethra, not diffusely, but in groups, involving the crypts of Morgagni with extreme rapidity, penetrating the mucosa and involving the submucosa. At the same time there is a marked infiltration of the mucosa and submucosa with round cells, more marked about the crypts, as is the infection, intense dilation of the bloodvessels filled with leukocytes and some development of fibrous tissue. Edema and plugs of exudate occlude the entrance of the glands, into the depths of which the gonococci have penetrated, thereby forming foci of infection. The epithelium is excoriated over the localized areas of infection and replaced with granulation tissue.

As the process develops, and to a degree depending upon the extent of errors in treatment, either in intensity, duration or character, the infiltration by round cells and the increasing deposit of fibrous tissue continue to the formation of marked local infiltration—first soft, then hard—leading ultimately to stricture formation and causing disturbance of blood supply and end nerves, at and behind this area. If definite stricture formation results, mechanical disturbances in the bladder, ureter, kidney pelvis, etc., due to back-pressure, are seen.

Infection of the prostate and vesicles usually develops by surface extension, or in the case of the vesicles, sometimes by reverse peristalsis or from the epididymis. In chronic infection of these parts, marked round cell infiltration and fibrosis in the submucosa and muscularis interferes with drainage and causes retention, serving as foci of infection which give rise to such general manifestations as chronic arthritis, endocarditis, etc.

Infection of the epididymis is very frequent and often forms foci for reinfection of the urethra, or may be the site of focal infection with systemic manifestations.

Let us note at this point, that in one section of a group of organs with the same origin, the same blood and nerve supply, we have structural changes involving the membrane and submembranous area, in which are nerve and blood vessel terminals.

Etiology and Symptoms of Stricture

If we refer back to the course of invasion of the infection, we note that there is an intense round cell infiltration of the mucosa and submucosa, with some fibrosis, the degree and extent of which depends upon the treatment. Over-treatment or the use of too strong chemical solutions, gives a greater reaction and causes greater infiltration. Lack of after-treatment, when the infection has cleared up, allows progressive infiltration and increasing fibrosis, going on to scar formation and stricture.

Symptoms may be local or remote. The local symptoms are: Burning, frequency, discharge, dribbling, twisting of the stream, increased sexual excitability and, later, diminished libido.

Burning and frequency occur, because of the congestion and irritation of nerve endings; discharge, because of the granulation tissue and the irritation of membrane, due to the retention of a few drops of urine behind the infiltrated area; dribbling, because, due to the relaxed condition of the membrane, the tonus necessary to empty the urethra is lacking and a few drops remain behind the infiltrated area, dribbling out after urination is completed; twisting of the stream, because of the narrowing of the lumen at the point of involvement; normal libido is affected because of the congestion and nerve terminal irritation present behind the point of involvement, becoming impaired as the structural changes progress.

Remote symptoms are due to back-pressure, and progress from posterior urethral irritation to a cystitis, dilated bladder with diminished muscle tone, dilated ureter, hydronephrosis and, eventually, pyonephrosis. I have seen a bladder wall one and one-half inches thick, with absolute loss of tone and a complete retention with overflow dribbling, caused by a simple stricture of the anterior urethra, and numerous cases of pus kidney from the same source are on record.

Diagnosis

A circumscribed, hard, fibrous stricture, of small caliber, is very simple to find. A diffused infiltration area of large caliber is another problem and is very often overlooked. I have had several patients of this type, who have been examined by urologists of high standing who have entirely missed the condition because of lack of care and thoroughness in their examination. It is highly important to diagnose this stage, as, at this time, a cure is relatively simple and rapid, the patient is saved from the conse-

quences of a severe stricture and the more remote organs of the urinary tract do not become involved. A large-sized bougie (28 or 30 F.) and an educated fingertip will search out these large-caliber infiltrations, when a 26 or 28 sound will pass without any obstruction. The urethroscope will bring to view the typical picture of infiltration, with its changes of mucosa, capillary circulation and fibrosis, and make diagnosis simple and certain.

Treatment

The most important treatment of a stricture is prevention, and dates back to the treatment of the acute infection. If we recall the fact that, in the invasion of the gonococcus, it very rapidly enters the crypts of Morgagni and penetrates into the depths of Littre's glands, as well as the mucosa, it is simple to realize that sterilization of the tract is impossible and a cure by means of strong solutions hopeless.

How do we cure disease? We do not cure disease! With but few exceptions our treatment consists in assisting tissues to throw off disease or in developing in that tissue the resistance necessary to overcome the infection present.

So, in gonorrheal urethritis, our treatment consists in building up tissue resistance. Too strong medication overcomes tissue resistance, so our solutions must be mild, practically non-irritating and not too continuously applied—not killing the infection, but aiding the tissue to overcome it.

And when the infection is overcome—what?

Not many years ago it was a popular fallacy that "a dose of gonorrhoea is no worse than a bad cold." It may be so! Many a patient has died from the sèquelae of a bad cold! At the present time we are much more aware of the seriousness of a gonorrheal infection, but we are not yet thoroughly impressed with the vital dangers of the complications and sequelae of a simple gonorrheal urethritis.

Clinics of various types, and many private practitioners, are turning out hundreds of patients, none of whom have been cured of their disease. What is a cure? Is it not a return to normal function—a return to a physiologically normal tissue? Then we cannot call a case cured when the infection has been arrested and the tissues are still pathologic! The most important phase of the treatment is still before us, and upon the carefulness, thoroughness and proper technical ability which we exhibit at this stage depends the future health and comfort of the patient.

Gonorrheal urethritis is an invasion of the urethral membrane and submembranous structures by the gonococcus, accompanied by a marked round cell infiltration, a submembranous fibrosis and capillary dilatation of the bloodvessels; and a cure depends upon the elimination of all these elements of the disease.

Every gonorrheal urethritis, before being sent away as cured, should be treated at regular intervals until we are assured that the accompanying tissue change has returned to normal. The use of sounds or dilators, followed by irrigation with 1:1000 silver nitrate solution, will break down granulation areas, stimulate absorption of infiltration and bring about restoration to n o r m a l of the submembranous area. Urethroscopic examination will disclose the presence or absence of superficial pathologic charges and, if present, topical applications of silver nitrate, etc., will complete the treatment necessary for a return to normal.

The curative, or, more properly, ameliorative treatment (for very rarely is a fully developed fibrosis permanently cured), consists of: *dilatation; diathermy; surgery.*

Dilatation should be started slowly, either by means of sounds or the Kollman dilator. In this connection, it has become the fashion of late to condemn the dilator because it is a brutal instrument, capable of doing great harm. Yes, forsooth, and so is a No. 12 sound! I have seen many a ruptured urethra, caused by a small sound in the hands of an inexperienced operator; while in the hands of the trained technician, excellent results are obtained and no damage done by using the Kollman dilator and dilating up to 35 and 36 F.

In the treatment of urethral conditions of any type, gentleness is the keynote of success. We should not attempt to find out how much the patient can stand, *but how much he can stand with a smile!* Proper dilation will cause gradual absorption of the infiltration, with a return to normal conditions in the submucosa, a normal vascular supply and the elimination of pathologic conditions of the mucosa, in cases in which the process has not gone too far.

Diathermy, in the case of diffused, soft infiltration, will sometimes clear up the pathologic changes very satisfactorily; in

hard fibrosis, in my experience, no benefit is obtained.

In very dense, fibrous stricture, in elastic tissue stricture and in cases with very marked tenderness, internal urethrotomy is indicated, with subsequent dilatation to assist the promotion of absorption.

Seminal Vesiculitis may be treated by simple massage of the vesicles; by diathermy, with or without accompanying massage; or, if resistant, by injection of the vas deferens; or, finally, by vesiculectomy, when necessary.

Epididymitis may be treated expectantly, by hot packs, by suspension and, perhaps, by vaccines in *small dosage;* or, for prompt results, when definite pus formation is present, by surgical drainage. By this I do not mean multiple puncture, but an incision through the pus-filled area, with evacuation of the pus pockets and complete drainage by suturing the edges of the incised area to the skin, allowing total obliteration of the pus pockets. This will give immediate relief of pain, will promote absorption and the elimination of all symptoms, and will not cause obliteration of the vas, if it is not already blocked by the inflammatory infiltration and fibrosis. The presence of pus is a surgical condition and should be treated surgically.

Folliculitis can usually be cleared up thoroughly, though not always promptly, by dilatation of the anterior urethra, with massage over the instrument and irrigation with a silver solution.

Conclusions

1.—The sequelae of the gonococcus infection are the cause of many serious derangements, both local and general.

2.—Prevention of these conditions begins with the intelligent treatment of the acute infection.

3.—A stricture of the anterior urethra is a pathologic condition of great local and systemic importance, affecting any part of the genitourinary tract, and should be recognized as an important disturbing factor.

4.—In systemic disturbances from focal infection, one should recognize the seminal vesicles, epididymis and follicles as vital factors.

5.—Treatment of any part of the urologic complex should be gentle, intelligent and thorough, with a full recognition of the serious possibilities of improper or incomplete care.

Discussion

Dr. Dietrich Klemptner: Arthritic conditions demand that the gonococcus be ruled out as an etiologic factor, because the joint involvements of the Neisserian infection are not infrequently quite atypical.

There is a gonorrheal complication that simulates appendicitis. It presents, not only the signs of appendicitis, but also their characteristic sequence. That condition is seminal vesiculitis. There is abdominal pain, nausea, vomiting, fever and leukocytosis; abdominal tenderness and even rigidity may be present. It is proper therefore, before the diagnosis of appendicitis in the male is made, to rule out the presence of seminal vesiculitis.

Mixed infections of the prostate gland are seldom missed by the profession, if they are the causative factor of referred disease. Instances seem more common where the mind of the specialist seems polarized on the prostatic gland and treatment is directed to it on doubtful findings, while obvious pathologic changes exist elsewhere; for example, in the mouth.

Dr. Maximilian Kern: Not only urologic disturbances, but all diseases, are self-limited —*if they are!* If not, we do not accomplish much. We do not cure patients; we merely assist the processes of nature to cure them more rapidly.

In gonorrheal arthritis, the most remarkable drug I have encountered is *Amiodoxyl Benzoate*. It works best when given intravenously, in a 1-percent solution. Rather severe, but not dangerous, reactions sometimes follow, but relief is generally prompt and positive. This remedy may also be given by rectum and, in the form of Calciodoxyl Benzoate, by mouth, with gratifying results, not only in gonorrheal arthritis, but in arthritis deformans as well.

Dr. George B. Lake: In searching for foci of infection, most physicians rather regularly overlook those which are very commonly present in the urogenital tract and rectum, because these areas are not stylish and are considered more or less pudendous and disgusting.

Such an attitude is a relic of the dark ages. We cannot make a diagnosis without the laying on of hands. If we will use an endoscope and a proctoscope to *look into* these cavities, as an up-to-date rhinologist uses his nasopharyngoscope, we will see many interesting things. But then, we

might *cure* some of these patients and deprive the specialists of some spectacular jobs!

In the treatment of the complications of gonorrheal urethritis we need *chemotherapy*—we need some strong stuff attacking the imbedded and snuggly hidden gonococci *from behind*. The intravenous, as well as local, use of solutions of *acriflavine* has given good results in the hands of a number of good men.

And then we need the *leukocytes* (*à la* Ferguson), stimulated by intramuscular injections of boiled milk (Lactigen), succinimide of mercury, or manganese butyrate. We cannot have too many arrows in our quiver when attacking these insidious and discouraging conditions.

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Gastrointestinal Manifestations of Food Allergy

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ALLERGY (synonyms: human hypersensitiveness, protein sensitization, atopy) is a condition of altered reaction on the part of the tissue cells to foreign chemical agents. The reactions are evidenced in those tissues that are vulnerable in the affected individual. Allergy or sensitization is closely related to the problem of immunity and anaphylaxis, both in principle and in manifestations. As long as the tissues of the human body are able to produce an antibody (probably, really, a tissue enzyme), to destroy or change a certain protein, living or inert, so that it does not act as a poison to the tissues, that individual is immune to that poison. When certain tissues become sensitized to the protein, these tissues will be affected, either showing a non-inflammatory reaction (hyperemia), in the case of inert protein, or an inflammatory reaction (infection) in the case of the living bacterial protein.

The word "atopy" has been adopted by Coca and Cooke[1] to designate the inherited hypersensitiveness of human beings. Allergy is a most important biologic and medical problem, because it represents the pathology of the reaction of man and the lower animals to their environment, to the air they breathe, the physical reagents, such as light, heat and cold, to which they are exposed, the food they eat, and the parasitic organisms which may invade them.

In the case of infection, it is not plain as yet whether antibodies are made in some one organ or tissue of the body, or whether each separate tissue must produce its own antibodies. The latter seems probable, because certain strains of bacteria seem to have a predilection for certain tissues. In the case of allergy this selectivity has long been recognized, it having been demonstrated that different tissues may be sensitive in varying degrees to the same or to different proteins. Thus, in the same individual a sensitization of the nasal mucosa to pollens may produce hayfever; of the bronchial mucosa to some emanations, asthma; of the skin to a vine or shrub, erythema or vesiculation; or of the gastrointestinal mucosa to a food protein, spasm or angioneurotic edema of this tissue.

Food allergy is a frequent cause of mild or severe abdominal symptoms. That this is not appreciated by the medical profession is evidenced by the lack of its emphasis in the literature. Reference is made to abdominal manifestations of food in a casual way, in many contributions on allergy, but this important cause of abdominal pain and gastrointestinal symptoms has received little attention.

Anaphylaxis

It has been discovered that sensitization occurs only after an incubation period of several weeks or months; that sensitiveness once established is likely to persist for years, even throughout the life of an animal; that the condition can be transferred passively to other animals, by inoculation of serum from a sensitized animal; that it can be transmitted from mother to offspring; and that sensitiveness may be removed quickly

and completely by inoculation with sublethal doses of the albumin to which the animal is sensitive.

It has also been discovered that sensitiveness is remarkably specific for the type of proteid used in producing the sensitive state. For example, animals inoculated with milk might become remarkably sensitive to further inoculations with milk, but not sensitive to serum—even the serum of the same species producing the milk. Likewise, animals sensitized against egg albumin might become sensitive to the particular egg albumin used in making the inoculation, but not sensitive to other egg albumin nor to the serum of the same animals. Animals thus treated would be more sensitive to egg albumin of closely related species than to serum of the same animal.

In 1910, Meltzer, comparing the bronchial constriction of asthma with that found in animals dying in anaphylactic shock, suggested that bronchial asthma was a phenomenon of anaphylaxis. This interesting suggestion attracted a great deal of attention, and since then a number of additional conditions have been attributed to a disturbed function caused by a remarkable hypersensitiveness in human beings, which resembles anaphylaxis in many respects, but which seems to be fundamentally a different phenomenon. This state is described by more recent writers as allergy. Whereas anaphylaxis and allergy have features and symptoms in common, they seem to be fundamentally different phenomena. Besredka[2], Cooke[3], Vaughan[4] have contributed much to this subject.

Mechanism of Allergy

The mechanism or chemistry of allergy is not understood. It bears a close relationship to anaphylaxis, but confusion has been caused because identical reactions can be produced from inorganic substances, such as metals and drugs and even from physical agents, such as light, heat, cold and mechanical irritation. Duke[5] relates the case of a woman, aged 43, whose relatives were subject to hayfever, asthma and urticaria. By exposure of the patient herself to any type of light that contained violet rays it was possible to produce hives. Exposure to summer sunlight caused erythema, itching and hives. Ordinary exposure to roentgen-rays or colored light, except the blue-violet, did not have these effects. He also discusses a number of other instances of sensitiveness to light, cold, heat, freezing, burns, mechanical irritation and physical and mental exertion.

The question whether it is a whole, unchanged protein which causes the allergic reaction, as has been held to be the case, is still an open one. It was believed at one time that true food allergy could occur only where a gastric achylia was present, thus permitting unchanged protein to be absorbed. It has also been suggested that the reaction may be due to some split protein or protein derivative, perhaps related to histamine, and that the whole problem is very closely bound up with the endocrine system, especially with the parathyroid function and with calcium metabolism.

It has been known that certain foods would cause certain untoward gastrointestinal reactions in certain individuals. The "gas" produced by certain legumes, the diarrhea following the ingestion of lobster, the abdominal uneasiness after drinking much buttermilk or cider or the drowsiness after eating sauerkraut are old acquaintances.

Allergy is found to be an hereditary condition, being transmitted in close conformity to the Mendelian law. While allergy *in general* is thus transmitted, the same tissues need not necessarily be sensitized in different members of the family, nor need the proteins be the same. Therefore, the family history should be thoroughly investigated, and although the patient may exhibit gastrointestinal symptoms only, the parents, or brothers or sisters may show other manifestations, such as asthma, hayfever, urticaria, chronic eczema or migraine.

In the individual, a history of previous or coincident manifestations in other tissues than those of the gastrointestinal tract is very helpful. Hives in earlier life, bilious headaches, frequent coryza, especially in the summer, asthma, angioneurotic edema, eczema, epilepsy, or other known or suspected allergic phenomena should create a suspicion that the patient's gastrointestinal symptoms may also be due to protein sensitization.

The Organs Affected and the Portal of Entry

It is generally true that an individual is usually sensitive to more than one protein and that more than one group of organs is sensitive to the same or to different proteins. Hypersensitiveness expresses itself by two lesions: edema and smooth-muscle spasms.

The organs affected principally, insofar as they may be recognized, are those of the upper and lower respiratory tracts, the skin and the gastrointestinal tract. The vascular system and possibly other organs may be involved under particular circumstances. When an allergic individual comes in contact, in the usual way, through inhalation or ingestion, with the substance to which he is hypersensitive, an edema or smooth-muscle spasm in one or more of the above mentioned organs is initiated. These lesions define certain symptoms complexes. Thus, hayfever or vasomotor rhinitis is an edema, primarily of the nasal mucosa; bronchial asthma, an edema and smooth-muscle spasm of the bronchi; urticaria and eczema, edematous processes in the skin; and vomiting and abdominal cramps, following the ingestion of intolerable foods, are edemas and smooth-muscle spasms of certain portions of the gastrointestinal tract.

It seems singular that the respiratory and gastrointestinal tracts and the skin are the only organs that are recognized to manifest commonly the allergic reaction. This fact implies that the receptive agents of the offending allergens reside particularly in these tissues. Also that, when contact is made with allergens, only certain of these tissues react. Thus, an individual who is sensitive to the allergens of wheat may develop bronchial asthma but no other symptoms after eating this food stuff. Apparently wheat, or its digestive derivatives, is absorbed from the bowel and eventually enters the circulating blood in some offending form. The receptive cells of the brochi react with mucosal edema and smooth-muscle spasm, although the local process includes many other subsidiary changes. No appreciable change, however, may occur in the skin or gastrointestinal tract, or even in the upper portion of the respiratory tract.

A similar differential selection occurs in the ingestion of strawberries in a hypersensitive individual, which may lead to abdominal cramps and urticaria, but not necessarily to asthma or vasomotor rhinitis. It seems probable, however, that all organs which participate in allergic reactions are more or less sensitive and the demonstration of symptoms depends probably on the degree of sensitivity. Thus, with a parenteral injection of an offending allergen, symptoms referable to the respiratory and gastrointestinal tracts and the skin may occur simultaneously, even though the previous symptoms were referable to one of these systems only.

It has often been noted that, in sensitization, the site of absorption does not of necessity correspond to the point of allergic reaction. This is seen in the general reaction following the subcutaneous injection of an overdose during pollen therapy. Although the portal of entry is a small area in the skin, there may follow nasal symptoms, bronchospasms, urticaria, angioneurotic edema or gastrointestinal symptoms. Again, following the ingestion of foods or drugs, there may be the cutaneous manifestations of urticaria and angioneurotic edema, or the pulmonary manifestation of bronchial asthma. In the light of the foregoing, it is not unreasonable to anticipate that, in the hypersensitive person, the ingestion of food may produce nasal symptoms.

That ingestion may be followed by nasal symptoms has been noted clinically. Hansel[6], in studying vasomotor rhinitis, found that, of 39 patients reacting positively to sensitization tests, 11 reacted to foods alone, 1 to foods and bacteria, and 1 to foods and animal emanations. Spain[7] notes that the ingestion of milk, eggs, cereals, fish, shellfish, nuts, mustard and chocolate is followed, in some persons, by nasal symptoms; he also mentions one case of chronic coryza which was due to the ingestion of chocolate, although the skin test was persistently negative. Vaughan[8] states that he has had a series of cases in which sneezing followed the ingestion of food to which the patient was sensitive, and mentions two instances of vasomotor rhinitis due to eating corn, in which the sensitization reaction was obtained to the pollen of corn and not to the grain. He also records two instances of definite ragweed pollinosis, completely relieved by avoiding certain foods, in which the therapeutic results was unsatisfactory after desensitization injections alone.

It seems that one may be sensitive to more than one allergic substance but may require exposure to others before severe symptoms develop. The nasal symptoms that follow purposeful feedings may be of comparatively short duration, so that if the food is eaten daily or at least quite frequently, the symptoms induced may be unnoticed. Further, it would seem that in these cases the severity of the clinical symptoms depends on the total dose of

the allergic substances, and that when any one of these substances is removed symptoms will lessen or wholly disappear. Similar clinical experiences have been recorded by Vaughan[9] who explains such cases by the theory of a balanced allergic state or allergic equilibrium. However, the mechanism may be similar to that described by Parker[10], who was able to produce precipitins to ragweed in rabbits and guinea-pigs only after having immunized them to staphylococcus aureus or to horse serum, thus showing that the production of precipitins for an antigen may confer on the organism a greater ability to produce precipitins for a heterologous antigen.

Investigations into the metabolism in allergic conditions were made by Barber and Oriel[11]. Certain phenomena have been demonstrated to occur with remarkable constancy in various manifestations of the allergic stage; some of these have already been described in experimental anaphylaxis and in serum sickness, which is generally admitted to be truly anaphylactic in origin.

In the allergic state, whether it is intermittent, as in certain cases of urticaria, angioneurotic edema and asthma, or more or less chronic, with periodic exacerbations or remissions, as in Besnier's prurigo and infantile eczema, there can be recognized a definite cycle of events corresponding to the preparoxysmal stage, the actual paroxysm, and the postparoxysmal stage. In this cycle the most striking features are: (a) the rise in the amino-acid content of the blood; (b) the rise in the ammonia excretion, out of all proportion to the excretion of acid in the urine; (c) the lowering of the corpuscle content of chloride, and the retention of chloride during the paroxysm, with its subsequent excretion, as in pneumonia and other acute infections; (d) the deposition of urates in the preparoxysmal or paroxysmal stage; (e) the ether reaction during the periods of active manifestations; and (f) the diuresis, with decreasing acidity and sometimes marked alkalinity of the urine, in the postparoxysmal stage. The deposition of urates and the ether reaction in the urine indicate an alteration in its colloid state, comparable probably to the colloidal change that is held to occur in the blood during anaphylactic shock. It is probable that the increased ammonia excretion and the retention of chlorides are protective mechanisms.

Treatment

Clinically these cases present themselves as acute, delayed and chronic manifestations, either mild or severe in character. The wideness of this problem will be appreciated when we remember that our patients may be of any age from a nursing infant to advanced years.

Creyx reports a case of milk asthma in a woman, aged 29, in which several attempts at desensitization were followed by only temporary relief. Born at term, on a dairy farm, the patient was breast fed until the age of 22 months, at which time she was weaned, but feeding with cow's milk produced attacks of asthma, accompanied by vomiting and diarrhea; beef bouillon was therefore substituted for the cow's milk and, for a time, the disturbance disappeared. At the age of 10 years the patient began to assist her parents in handling the milk when, although she did not drink a drop of it, the attacks of asthma reappeared with such severity that she had to go to live with a relative who did not keep cows, after which the attacks disappeared. At the age of 18, when she returned to her parents and resumed her former activities, the attacks of asthma reappeared with their previous frequency. At this time she consulted the author. The ingestion of even the smallest quantity of raw or boiled cow's milk resulted in an attack of asthma, accompanied by vomiting, diarrhea and generalized urticaria. The sensitiveness to milk was so great that she could not remain in a room in which there was an open vessel containing it. A typical attack began with conjunctival injection and rhinorrhea and was characterized by spasm and increased secretion by the bronchial tree, which caused coughing and the expectoration of mucus. A skin test, performed with cow's milk, corroborated the clinical history.

With the onset of the acute reaction it is desirable to remove as much as possible of the offending protein from the digestive tract by lavage, induced vomiting or catharsis.

The acute attack may continue for several days; the distention, particularly of the stomach, is very marked and has to be relieved by frequent washings (in one case we performed lavage every four hours for three days which gave prompt and marked benefit even though but temporary). The obstipation also is troublesome; it may be absolute for days, in spite of the use of high enemas, and the first evacuation will probably be diarrheal and accompanied by the presence of blood.

For the later allergic symptoms, adrenalin (epinephrin) chloride solution, 1 to 1000, given intramuscularly or sublingu-

ally, in 10- to 15-drop doses, will frequently act with great rapidity. Pituitrin is said to be slower in acting but more lasting in effect. Calcium lactate, a heaping teaspoonful (8 Grams), in a full tumbler of water, will enhance and prolong the effect of the epinephrin. Atropine has been used to relieve the cramps but is much less potent than epinephrin. The modus operandi of epinephrin is not known, but its efficacy in asthma, urticaria and other allergic manifestations has long been recognized.

Tonics and Peptones

Improving the digestion places a barrier in the way of the food getting to the tissues, in a whole or partly digested state. I have used with satisfactory results:

℞ Calcium Iodide.....ℨss (16.00)
Ac. Hydrochlor. dil..ℨss (120.00)
Elix. Pepsini.....q.s. ℨij (240.00)

Sig: One teaspoonful in a full glass of water, sipped slowly with each meal.

The addition of peptones to the diet is a valuable way of supplying the protein needs of metabolism. If injected directly into the circulation they are not assimilated, but if taken by mouth they are converted into natural proteids before entering the blood. Peptones also have a tendency to produce diarrhea, when introduced suddenly and in large amounts into the stomach and intestine; they seem to induce a large flow of water into the alimentary canal from the blood, and this is accompanied by an increased activity of peristalsis. For this reason they must always be used cautiously and in moderate quantity, while in conditions of diarrhea, the more concentrated forms should be avoided altogether.

Peptone preparations also appear to have the power of exciting a secretion of gastric juice and of promoting appetite, in much the same way as do the extractives of meat. Their nutritive value, therefore, is indirect rather than direct, and is to be measured more by their general effect upon the wellbeing of the patient than by the amount of energy which they supply.

Home-made peptonized foods, prepared by the use of pancreatine, etc., are now well known and widely employed, peptonized milk being that most commonly used. Gruels of various sorts can be prepared in a similar way, peptonized milk gruel being one of the best. Such home-made preparations are perferred to commercial articles, and have also the advantage of being very much cheaper.

For young infants, two solutions are proposed by Gage, both of which would, when properly handled, of necessity be immeasurably cleaner and freer from bacteria than could be the best sample of cow's milk now obtainable. The first solution is made by extracting, by boiling, the nutritive values of either crushed whole brown rice or crushed whole wheat, the strength of the solution depending on the age and general needs of the child in question. The second solution is made by cooking together, for from one to two hours, a chopped mixture of tomatoes, celery, spinach, carrots and thin potato peel, one-half pound of each, except spinach and thin potato peel, of which should be one-fourth pound each, to make 1 quart of solution. Both grain and vegetable solutions should be strained through wire, bottled, stoppered with cotton wool and placed on ice until needed. According to the particular case and its needs, these solutions may be fed separately or combined, and in dilutions and proportions which are suitable.

Endocrines

Endocrine therapy has been tried, and in some cases has been found to be successful. The continued administration of epinephrin or pituitary extracts to prevent allergic attacks is not satisfactory nor advisable. Parathyroid therapy, using doses of 1/10 grain (6 mgm.) of the gland, has, in some cases seemed of value, especially where combined with large doses of *calcium* (calcium lactate, one heaping teaspoonful, two or three times daily).

To prevent allergic reaction, the only certain method of treatment is to remove the offending protein or proteins from the diet. This is easily accomplished in the case of foods which are only occasionally used in the patient's diet, such as honey, shell fish or even ordinary meats, fruits, beverages and condiments. When an individual is, however, sensitive to a food used commonly in cooking, such as wheat, eggs or milk, removal of the cause is not only a great hardship but it is practically an impossibility to follow a diet with these proteins eliminated. In these cases desensitization must be attempted.

Desensitization

Unfortunately, some individuals are so highly allergic that a mere trace of the food to which they are sensitive suffices to make them miserable. Such a person may find it necessary to be constantly on the lookout to avoid taking such a trace unknowingly. For this reason, protein therapy, in a case of this kind, is advisable.

Fortunately it is not necessary to obtain complete desensitization in order to relieve the patient. Complete desensitization may not be possibe, and an effort to attain this result may not be advisable or even desirable. If the patient's sensitiveness is reduced to a point where he can tolerate the small amounts of the food which are used in cooking other foods, he can, with a little care, live very comfortably. For example, if he is sensitive to casein, and his sensitiveness can be reduced to such a point that he can tolerate the amount of casein encountered in ordinary cooked foods, such as bread, cake and potatoes, he may, by avoiding the drinking of milk and the eating of foods consisting chiefly of milk, live in comfort.

Prolonged abstinence from a given food permits many patients to become gradually desensitized and it may be possible later to build up a little tolerance in some of these individuals. This is very important when the idiosyncrasy is to a common food such as milk or eggs. By feeding gradually increasing amounts, beginning with a minute quantity, such as one-thousandth of an egg or one drop of milk, and taking several months before one-half glass of milk or one-half of an egg is taken, a little tolerance may be gained.

Some patients seem impossible to desensitize. Many of the failures in oral desensitization are due to too large an initial dose. Egg must be started in infinitely small doses. I usually start with one teaspoonful of a solution of one drop of a beaten egg in a glass of water, and have gradually reached a point where a whole egg a day could be tolerated. In the case of wheat, the flour may be made into a solution, by boiling, and similarly administered.

Nonspecific desensitization by the intramuscular or intravenous injection of peptone solution (up to 2 cc. of a five-percent solution), or other proteins, has not been satisfactory in my hands.

This method is based on the theory that, by the intramuscular or intravenous injection of a foreign protein, the resistance of the body to all proteins may be raised. It is essentially the same as nonspecific protein therapy in chronic infections. The dose may be such as to cause a general reaction—chill and fever—or may be minute, and increased at three- or four-day intervals until large doses are given intravenously without general reaction. Cases have been reported where complete desensitization to food proteins was produced by one severe reaction, after an intravenous dose of colon bacillus vaccine.

In Creyx's case various methods of desensitization were tried. The first consisted of 33 hypodermic injections of boiled and diluted cow's milk, administered in series at the rate of one every two days; between the sixth and the fifteenth injections the patient was free from attacks, but beginning with the fifteenth injection they reappeared with their former severity. Fifteen days later another attempt at desensitization with cow's milk was made, in which different dilutions and intervals were used, but no improvement in the patient's condition was noted. Nonspecific protein therapy, in the form of intradermal injections of peptone was then tried, but the results of this treatment, also, were negative. Autoserotherapy, as recommended by Widal, was next tried and resulted in improvement which, however, lasted only four months. As a last resort, a maceration of scales from the skin of the patient, who was also afflicted with congenital ichthyosis, was made and a series of daily hypodermic injections was performed; this resulted in only temporary relief. At the present time the patient is free from attacks, by reason of the fact that her parents disposed of their cows.

The disappointing results so often encountered in these cases result, probably, because of the activity of other types of obscure allergy, but more frequently because of poor cooperation or too brief a period of treatment. Many of these patients recognize the substances which upset them if ingested, but they continue to repeat their experiences. Like the small boy who, when he sat down to his Christmas dinner, surveyed the table, overloaded with good things to eat, and turning to

his mother said, "Gee, Ma, ain't I going to be sick tomorrow!"

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Birth Control and Sterility

By EDMUND LISSACK, B.Sc., M.D., *Concordia, Missouri*

A CHILDLESS marriage may be a happy one, but is never the happiest. Most normal women desire a home and children. This is equally true of men. We are, therefore, justified in assuming that some form of sterility is, as a rule, responsible when a union continues childless over a period of five or more years. Often friends and relatives add to the secret sorrow by chiding the unfortunate couple for not wanting children or for using "birth control."

Conception is dependent on the following conditions:

1.—The deposit of living, active spermatozoa in the upper portion of the vagina.

2.—The passage of active spermatozoa through the cervical canal and uterine cavity into the fallopian tube.

3.—Passage of a healthy ovum from the ovary through the tube, at a time when active spermatozoa are present:

4.—The fertilized egg must find a resting place where it can develop until the period of viability.

All four conditions must be fulfilled. It is evident, therefore, that the sterility may be due to faults of either husband or wife, and no examination is complete which does not include a microscopic test of the semen. The husband may have active spermatozoa and yet be responsible for the sterility. Latent gonorrhea in the male may cause a low-grade infection in the woman, with permanent closure of the tubes.

Birth control may be practiced without danger of conception when one or both parties are actually or potentially sterile. If both parties are virile, sooner or later there is a break in technic and pregnancy results. Those who merely aim to postpone the pregnancy accept this with good grace; but all-to-often the woman is rushed to the abortionist while still in the hysterical stage and her life and future health jeopardized.

Birth control, to be at all effective, demands a considerable degree of intelligence and self-control.

I believe our federal and state laws are wrong in making it a penal offence to use contraceptives, or even to suggest their use. However, contraceptives may be bought and sold but, as in the case of abortion, they are classed as criminal procedures.

There are times when it is absolutely

necessary to prevent conception, as in the case of heart disease, tuberculosis, kidney diseases, general malnutrition and chronic invalidism. In aggravated cases of such conditions it is a serious menace to the woman to bear children.

It is a short-sighted policy to advocate that the poor woman should bear a child yearly; such a course begets a poor quality of manhood and womanhood. It is infinitely better to bring one or two children up well, than a large brood poorly.

Birth control is a fact and not a theory. It has been and is being practiced in all civilized communities. The question is really as to methods and as to who should supply the information. Shall we leave it to the public to continue to gather scraps of information regarding methods of contraception, with a large proportion of failures and with the danger of using injurious methods and frequently resorting in desperation to abortions? Or shall we doctors learn all the methods mentioned and intelligently advise contraceptives in appropriate cases?

I believe there are safe and harmless methods of contraception, and that birth control should be better known as the regulation of contraception, and the regulation in two directions: First the limitation of conception among the destitute, the debilitated and the defectives; and, second, the encouragement of conception among all those families that are qualified to raise more than one or two children.

If there are economic reasons why young people can not consider pregnancy, it is better to postpone marriage than to resort to contraceptives*. As physicians we should give our healthy patients to understand that, when pregnancy occurs, they must accept it rather than rush to the abortionist, as so many do today.

The more highly educated woman of today usually marries after twenty-five, when she has already passed the period of greatest fertility. If she then uses contraceptives for a few years she often becomes potentially sterile and medical treatment may be required before a pregnancy will result. Furthermore, in many cases, the unnatural sexual practices have made her more or less neurotic†. These cases are apt to end in a sanitarium or a divorce court.

A general plan to follow in treating women who complain of sterility would be:

1.—A carefully taken history is important.

2.—A thorough physical examination, with special attention to the pelvic organs, is needed.

3.—Test spermatozoa, having the woman come to the office immediately after intercourse.

4.—If the pelvic examination is negative and the spermatozoa active the woman is placed on medical treatment. Intercourse is permitted at not less than 3-day intervals, during the 2 weeks following menstruation and none during the rest of the month.

5.—If a pregnancy does not result within a few months, she is advised to have an inflation test to determine the patency of the tubes.

6.—Surgical treatment is advised where anatomic abnormalities demand it but rarely with much hope of relieving the sterility.

Summary

1.—A long-continued prevention of conception is possible when one or both parties are sterile or potentially sterile.

2.—If both parties are virile sooner or later a pregnancy will result, in spite of contraceptives.

3.—The use of contraceptives tends to produce functional sterility.

4—A criminal abortion is apt to result in permanent sterility.

5.—The average girl of today leads a life which tends to reduce her fertility. She will have a relatively small family, even though no precautions are used, and attempts to postpone pregnancy may result in her having no children.

6.—Functional sterility can usually be corrected if both husband and wife will cooperate with the physician and continue treatment for a sufficiently long period.

*This statement is, we believe, open to question. There are valid arguments on the other side.—Editor.

†Not all contraceptive methods now available are open to this criticism, for some of them are preferable in their effects to the fear of an inopportune pregnancy.—Editor.

Indications for Hot and Cold Applications to the Eyes

By O. B. Nugent, M.D., *Chicago*

Professor of Ophthalmology, Chicago Eye, Ear, Nose and Throat College

THE use of heat and cold in eye affections is oftentimes misunderstood by the layman, and too often is misused by the general practitioner. A thorough understanding of the anatomy, histology and physiology of the eyeball and its appendages will be a marked help in deciding which to use in various eye affections. It will be well, therefore, to give a brief review at this time.

Anatomy:

The eyelids are lined with the conjunctiva (a mucous membrane), are composed of fibrous tissue, muscles and glands, are richly supplied with bloodvessels and are covered, externally, with a modified skin.

The eyeball is made up of three important layers or tunics, namely: The *tunica fibrosa* (cornea and sclera), which is the skeleton of the eye-ball; the choroid or vascular tunic; and the retina or neural layer.

Inside the globe are found the anterior and posterior chambers, which are filled with a fluid known as the aqueous humor, and, posteriorly, the vitreous chamber, which is filled with the vitreous body. Between the anterior and posterior chamber is found the iris, which is a disc-like membrane, attached to the anterior border of the ciliary body, and has, in its posterior layers, two kinds of muscles—radiating and circular—which dilate and contract the pupil, respectively. It is also very vascular.

The ciliary body is a muscular structure, attached to the inner side of the sclera slightly posterior to the junction of the cornea and sclera. It is covered with a vascular membrane which is continuous with the choroid and is thrown into many circular folds under the anterior two-thirds of its surface. These peculiar folds are called ciliary processes.

Just behind the iris and in front of the vitreous body is the crystalline lens, which is held in place by its contact with the vitreous body and by many radiating fibers which run from its circumference to the ciliary processes, and as far back as the anterior limit of the retina. These are called zonula fibers and form what is called the *zone of Zinn.*

In the lids are many small glands and lymph spaces, as well as an abundance of small capillaries. The conjunctiva also contains small glands and many invisible bloodvessels. The cornea and sclera are richly supplied with lymph spaces, containing lymph from the conjunctival and episcleral bloodvessels. The tunica fibrosa contains little or no blood supply, but receives its nourishment from the lymph.

Physiology

The aqueous humor is secreted mostly by the epithelial cells of the ciliary processes and is excreted through certain circular canals in the sclera, known as *Schlemm's canals.* These are connected with veins, into which the aqueous humor eventually flows.

The aqueous humor has for its principal functions the nourishment of the crystalline lens and zonula fibers, and to assist in maintaining proper intraocular tension. It is constantly being changed, so that, if clouded by certain disease processes, it may again become clear. The aqueous humor and lymph are both formed from the blood, but have decidedly different compositions and are kept entirely apart, from the time of their origin until they are both poured back into the blood stream.

The function of the cornea is that of refraction and support to the proper contour of the globe. It is protected by the action of the eye-lids, which cleanse its surface and assist in its nourishment by keeping it warm, thus allowing a better flow of lymph through its stroma.

Thermotherapy

From this brief review and from our knowledge of the metabolic action in cells and tissues in other parts of the body, it is easily seen that metabolism is best maintained at normal body temperature, is accelerated by the use of heat and retarded by the application of cold.

External applications of heat and cold af-

fect, mostly, the lids and the anterior segment of the eye—the conjunctiva, cornea, anterior zone of the sclera, the iris, ciliary body and the glands in this region.

The cornea is more affected by heat and cold than are any other parts of the globe, and is often subjected to injury and metabolic changes, due chiefly to its delicate composition and its constant exposure to injury and cold.

It is common knowledge, even among laymen, that bacteria grow best at body temperature, and that cold greatly retards their growth; and this knowledge has, oftentimes, led to disastrous results, because cold applications have been used in many infected conditions of the conjunctival sac, with the idea in view of retarding the bacterial growth and thereby relieving the existing infection. Cold applications do, in fact, retard the bacterial growth; but their action upon the cornea, in retarding the lymph flow and interfering seriously with its nourishment, invites degeneration and necrosis, which only give the bacteria a better chance for more rapid growth and deeper and more extensive invasion.

The comparative action of heat and cold on the eye makes it imperative that *heat* be used in all cases where metabolism is to be kept at its best—and that applies to all eye affections, with but few exceptions.

When cold applications are used on the eyes, it is usually a case of choosing the lesser of two evils. For example, in case of injury, cold compresses can be used to prevent blood extravasation into the tissues, and then they should be used only for a short time, or until the danger of bleeding has passed. In this case, therefore, the damage done to the cornea and other delicate structures would not be so great as that which might result from the hemorrhage.

In brief, hot applications are best used in all eye affections, with the exception of injuries where there is no laceration of the skin, and there is danger of discoloration, due to extravasation of blood, or of swelling, due to lymph stasis in the injured parts, in which case it is more beneficial to use cold applications for the first few hours; *then heat*, from that time until the parts have returned to normal.

235 West Washington St.

Initiative

The world bestows its big prizes, both in money and honors, for but one thing. And that is Initiative.

What is Initiative?

I'll tell you: It is doing the right thing without being told. But next to doing the thing without being told is to do it when you are told "once." That is to say, carry the Message to Garcia: those who can carry a message get high honors, but their pay is not always in proportion.

Next, there are those who never do a thing until they are told twice: Such get no honors and small pay.

Next, there are those who do the right thing only when necessity kicks them from behind, and these get indifference instead of honors and a pittance for pay. This kind spends most of its time polishing a bench with a hard-luck story.

Then, still lower down in the scale than this, we have the fellow who will not do the right thing even when some one goes along to show him how and stays to see that he does it: He is always out of a job, and receives the contempt he deserves, unless he happens to have a rich Pa, in which case Destiny patiently awaits around the corner with a stuffed club.

To which class do you belong?—Elbert Hubbard.

THE SEMINAR

CONDUCTED BY
MAX THOREK, M.D. (*Surgery*)
GEORGE B. LAKE, M.D. (*Medicine*)

[NOTE: Our readers are cordially invited to submit fully worked up problems to the *Seminar* and to take part in the discussion of any or all problems submitted.

Discussions should reach this office *not later* than the 1st of the month following the appearance of the problem.

Address all communications intended for this deparement to *The Seminar*, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

PROBLEM NO. 6 (MEDICAL)

Presented by Dr. Raymond C. Mundt

(SEE CLIN. MED. AND SURG., MAY, 1929, P. 331)

Recapitulation: A healthy young man, 22 years old, received first and second degree burns involving all of the body surface except the back of the trunk, thighs and legs, the left shoulder and parts of the arms and forearms (more than half of the skin surface was burned, more or less severely).

At the hospital he received a hypodermic injection of morphine and atropine and 1,500 units of tetanus antitoxin.

Requirement: State prognosis and outline treatment in detail.

DISCUSSION BY DR. J. R. SMITH, WARSAW, MO.

Prognosis. With the great extent and severity of the burns, the general indications are that life is very near the end, and it is very doubtful if any treatment, aside from relieving suffering, will do very much good. If antiseptic oil dressings did not tide him over the shock, he probably passed away in less than 48 hours.

If not, then I should continue the dressings; and the best and most effective in these cases, from the very beginning is 1 gallon of mineral oil, with 2 ounces of tincture of iodine, thoroughly mixed. Gauze packs saturated in this are applied to every section burned and *changed every 4 to 6 hours.* There is a marked analgesic as well as counter-irritant, effect.

DISCUSSION BY DR. GEO. ACHESON, ST. MARTINS, N. B., CAN.

The prognosis in this case, for the first 24 hours, depends on the severity of the primary shock and its response to treatment. This is the first thing to be attended to; everything else, for the time being, is secondary.

The usual treatment for surgical shock should be instituted at once—pituitrin, morphine, heat and fluids. If, after four or five hours, there is no improvement, there should then be given transfusion of whole blood, or the administration of physiologic saline solution, intravenously.

If the patient recovers from shock, the next thing to be feared is toxemia, which usually appears in from 12 to 24 hours after the accident. Here the prognosis will depend largely on the treatment adopted. While picric acid is of considerable value, and also Parresine, in the prevention of toxemia, they have certain disadvantages, most of which are obviated by tannic acid, as used recently. The action of this solution is limited to the precipitation of dead proteins.

In the case under discussion, after cleansing the burn of the ointment which had been applied at first, by using gasoline and ether, and then opening all vesicles and removing all separated, dead epithelium, spray the whole area with a 10-percent, aqueous solution of tannic acid, repeating the spraying every hour for 24 hours. This will cover the burned area with a brown, dry, painless coating, like leather. If no infection takes

place beneath this coating, rapid healing will ensue by granulation and epithelialization.

If, however, any evidence of sepsis occurs under the tannic acid dressing, some moist antiseptic application should be resorted to, Chlorazene or one of the other chlorine compounds being best for combating the septic process. Sloughs, when showing the line of demarcation, should be cut away. As a prophylactic against sepsis, it might be well to administer an injection of scarlet fever antitoxin, as the streptococci found after burns and in scarlet fever are similar, if not identical.

When the danger of septicemia is over, all that is to be done is to keep the wounds free from infection, and thus assist Nature's process of repair by granulation. Skin grafting may be necessary if there has been much loss of dermal tissue, and every precaution should be taken to prevent, so far as possible, scarring and contraction.

Treatment Given by Dr. Mundt and Results

The treatment given in this case was as follows:

The parts of the body not being worked on were kept covered with a blanket over a sheet, and the room was kept quite warm, to avoid chilling.

Large sheets of the loose burned skin were removed with sterile scissors and tissue forceps and the blisters were opened. Debris of the burned cotton was removed from the burned areas by lavage with warm, 5-percent tannic acid solution. Borated petrolatum was spread on large sheets of sterile gauze, placed over the denuded areas and loosely bandaged.

The skin had come off the hands completely and they were bare to the corium. They were bandaged with dry gauze and soaked in 5-percent, warm tannic acid solution, hourly. During the dressing the patient was conscious and did not suffer greatly. Toward the end of the procedure he experienced a chill, but this was relieved by placing hot-water bottles in the bed. He was placed in a warm bed, the covers being supported on hoops.

The next day the patient was in fair condition. There was considerable exudate, and the dressings were changed daily. It was now learned that the patient's mouth and pharynx were burned, so that he had difficulty in swallowing.

On the second day the temperature had risen to 101°F. and, as fluids could not be forced by mouth, proctoclysis of isotonic saline solution was given, and resulted in improvement. Elimination by the kidneys and bowels was good, and urinalysis, at this time, showed no abnormality.

In a few days it was noted that the hands were healing faster than the other areas, so wet dressings were also applied to the latter—in this case, 10-percent sodium bircarbonate solution. The legs were placed in an electric light tent for a day, and were then exposed to the air, with improvement.

After the third day, the patient took liquids and alkalis by mouth and, in a few days, was able to take some soft foods, but there remained some difficulty in swallowing.

From the second to the eighth day he was delirious at intervals and had a wild look in his eyes. He did not recognize some of his friends, and imagined himself drilling with his National Guard company. After this time he was rational until the terminal delirium.

The patient's greatest difficulty seemed to be his inability to relax and rest—he remained in a state of tension most of the time. Phenobarbital seemed to make him more restless, and even morphine would not produce sleep. Beginning about a week after the accident, bromides gave him some rest. The position of the burns was such that he could lie only on his back, and he did not feel comfortable in this position. He developed decubiti at the spine of the right scapula and at the ischial tuberosity of the right hip.

The wet dressings on the burns softened the crusts which formed, so that parts of these could be removed daily, leaving the clean, raw tissue, which commenced to heal.

About this time a complication arose, in the way of a greenish slough on the raw areas. Facilities were not at hand for making cultures, but the solution was now changed to Dakin's for two days, after which return was made to ointment dressings. Two ounces of balsam of peru to one pound of borated petrolatum was used with success. Hard crusts had formed on the thighs, from exposure to the air, but these were removed after two days' soaking with wet dressings.

During this time, the face and neck had been healing nicely. After the second day olive oil was used to soften the crusts.

When these were removed, an antiseptic burn-wax was painted on for a few days, and left the face with new skin and without scarring.

The temperature was around 100°F., the pulse from 100 to 120 per minute most of the time, and the respiration about 24 per minute. Twenty minims (1.3 cc.) of tincture of digitalis was given, four times daily for several dys, to keep the heart rate within this limit.

Between the tenth and twelfth days the urine showed a small amount of albumin, but this cleared up. Ten days after the accident, the patient experienced more pain on dressings the burns than he did during the first few days. In spite of the gentlest handling, he shook and cried.

There seemed to be improvement up to and including the sixteenth day, although nutrition was not so good as might be desired. He visited with his wife and family on this day, and really seemed better than ever.

That night he became very restless and, on the morning of the seventeenth day, there was some delirium again. The temperature had risen to 103°, the pulse to 130 and the respiration to 36 per minute. A white blood count showed only 9,000 per cu. mm.

At this time an erythematous rash was noted on the face and surrounding the burned areas of the body. Thirty minims (2 cc.) of injectible digitalis was given, hypodermically, every three hours, wet dressings were again applied and proctoclysis of 5-percent sodium bicarbonate solution given. However, the toxemia advanced, in spite of all efforts, and the patient expired at 4:30 P. M.

Post-mortem inspection showed the burned areas in healthy state of healing and there was no appearance of gross infection, so death was considered to be due to toxic absorption, coupled with the weakened constitution of the patient. Autopsy was denied.

Closing Discussion

By Dr. George B. Lake, Chicago

An old dictum declares that when burns, even of moderate severity, involve more than half of the skin surface, the prognosis is decidedly unfavorable. In such cases, death may result during the first 24 hours, from shock; or, later, from progressive toxemia.

In this case, shock was not so severe as to cause apprehension, and the patient, after a period of what appeared to be distinct improvement, died on the seventeenth day, with his wounds in a relatively clean and satisfactory condition.

Dr. Smith has voiced the traditional gloomy prognosis in such cases, but, with the modern knowledge and technic now at our disposal, this discouraging outlook has been much mitigated. I cannot agree with his suggestion of oily dressings in burns of this extent.

Dr. Acheson has, in a general way, covered the ground very well. As he says, shock, if present, must be combated before anything is done for the local condition, and his suggestions along this line are sound and sufficient.

As to the local treatment, tannic or picric acid or, if the wounds are free from infection (they seem to have been reasonably so, in this case), spraying with melted Parresine, will probably be found superior to the oily dressings recommended by Dr. Smith and used, to some extent, by Dr. Mundt.

The usual way of using tannic acid is to cover the burned areas with several layers of dry, sterile gauze, loosely bandaged, and then keep these dressings constantly wet with a 2.5 to 5-percent solution of the acid for 12 to 24 hours, or until the dead tissues are thoroughly tanned, subsequently exposing the whole body to the air, without dressings. Dr. Acheson's spray of a 10-percent solution would not seem to be so surely effective.

Picric acid solution is made by dissolving 6.0 to 10.0 Gm. of the crystals in 925 cc. of distilled water and 75 cc. of alcohol. It is applied on *small pieces* of gauze (they come off easier than large pieces), covered with absorbent cotton and bandaged. This dressing is left on moderate burns until they heal. On severe burns, the dressing is changed after two or three days, soaking the old gauze loose with the picric acid solution, clearing away pus, if present, with hydrogen peroxide solution, and redressing with the picric acid. Fingers and toes should be separated by small pads of cotton or gauze wet with the acid solution. *Picric acid stains, indelibly, everything it touches.*

If the wounds are clean, they may be dried with an electric fan, sprayed or painted with melted Parresine (flexible paraffine, medicated) and covered with Parresine lace mesh gauze, which permits drainage and will not stick to the wounds. This

dressing should be changed in 24 hours, cleansing the wound by patting with *dry* gauze—use no solutions—and redressing.

The chief fault with Dr. Mundt's local treatment is that he did not adopt *one* method, and then *stick to it*, and that the dressings seem to have been changed more frequently than necessary. When dressings must be removed from wounds, the patient is grateful if they are first moistened with solutions of the mild local anesthetics, Butesin or Anesthesin (benzocaine). An ointment of Butesin Picrate combines the virtues of picric acid and Butesin, for cases where an oily dressing is desirable.

One would think that culture tubes might have been obtained from the State Board of of Health (using the telephone or telegraph to expedite matters), for the study of the "greenish slough." Such investigations are always worth while, and many practitioners do not use them often enough.

The indications for digitalis, in this case, are not made clear, although Flexner has reported that fatty degeneration of the myocardium sometimes follows severe burns.

For the restlessness, bromides, in considerable doses (30 or 40 grains—2 to 2.5 Gm.) seem to have been indicated from the start. Phenobarbital is not the best barbituric acid hypnotic, in a case like this. Neonal is better or, if more analgesic effect is desired, Allonal or Neonal Compound. Continuous warmth to the whole body (the "electric light tent," which was used over the legs only, for *one day*) might have proved helpful.

Sodium bicarbonate was given, by rectum, once or twice. This might profitably have been used more extensively; also large intravenous infusions of physiologic salt solution and dextrose (the patient seems to have needed more carbohydrate) might possibly have improved matters.

Tidy mentions the scarlatiniform eruptions which sometimes follow surgical wounds and burns (it was somewhat delayed in this case, if that is what the terminal rash was), and Dr. Acheson's suggestion as to the scarlatinal antiserum sounds rational.

The relatively low leukocyte count suggested a weakening of the resisting powers, and help might have come from stimulating the phagocytes by intramuscular injections of boiled, fat-free milk (Lactigen) or mercury succinimide, or intravenous injections of a 1:1,000 solution of Metaphen. It was worth trying.

In 1917, Robinson recommended the local application of normal horse serum in the treatment of burns, and, in a recent number of the *Journ. Am. Med. Assn.*, Monteith and Clock report upon their use of this method (see abstract on page 510 of this issue).

With burns so severe as those in this case, however, the balance of probability of recovery was against this patient, in the best of circumstances; but after he had survived for sixteen days, it would *seem* that something might have been done to keep him here. I dare not be dogmatic, for I once lost a patient whose condition seemed even more favorable than that of the subject of this problem.

Belated Comment on Problem No. 5

Pardon me for alluding to problem No. 5 after its conclusion, but for several reasons I cannot resist the urge in this special class of cases, cancer and tumors (large *or small*). Thousands of cases are due to the lack of *competent medical advice*. The patient accepts the doctor's prognosis in good faith. "It will probably amount to nothing, being only a small cystic tumor or congested lymphatic gland."

Twelve years ago a young lady consulted me for the very same condition, a lump about the size of a hazelnut, with no indication or history of malignancy. I advised *extirpation*. The family took my advice, and a radical operation was done. Two years later an older brother developed cancer of the stomach and died from it, with *nothing* in the family history to indicate this malignant condition. The young lady, his sister, is still living and in perfect health. Procrastination is the cause of the sacrifice of thousands of lives. *Preparedness* means the end of war.

The surgical work done was a godsend to this woman and showed extraordinary care, skill and success, whether she out-lives the 18 months in store for her or not.

The lack of shock was probably due to the use of the two No. 2 "H.M.C." tablets, relieving the strain on the heart and nervous system. Besides this protection, she was in a partial "twilight sleep," which lasted several hours and relieved her of much postoperative pain. The combination, "H.M.C.," is certainly a blessing in surgery and

obstetrics. One can perform almost any major surgical operation without any other anesthetic than 2 (or possibly 3) No. 1 "H.M.C." tablets, given hypodermically.

J. R. SMITH, M.D.

Warsaw, Mo.

PROBLEM NO. 8 (MEDICAL)

PRESENTED BY DR. CHAS. E. B. FLAGG, VANCOUVER, WASH.

A high school girl of 17 was seen in consultation August 27, 1928.

Her *family history* is negligible.

Her *chief complaint* is generalized pain in the abdomen, nausea and vomiting.

Previous history: Nocturnal incontinence of urine, with pyuria, when 7 years old. The pyuria cleared up in a month. Pertussis in April, 1918; influenza in December, 1918. For the last year she has been "going over time" with her menstrual periods: Last menstruation, May 15, 1928; last period prior to that occurred March 15, 1928. Weight, 140 pounds in May; and on August 20 her weight was 96 pounds. Has been up and around, singing in the choir at church, until the day before I saw her. Is now confined to bed and very weak.

Present condition: She has pain in the abdomen, especially in the left inguinal region, and her stomach "hurts" all the time, especially when she eats. August 15 she had nosebleed. She is nauseated all the time and vomits blood-stained mucus. (In all her previous illnesses she has had a tendency to vomit). Anorexia is present; the bowels act normally; the pulse, 132; blood pressure, 130/50; heart and lungs normal. Abdomen is scaphoid and lymph nodes are palpable. Uterus not enlarged. Thyroid not enlarged.

The *urine* is negative. *Blood*: Red blood cells, 4,200,000; white blood cells, 10,000; hemoglobin, 80 percent; differential count, polys, 68 percent; small lymphs., 31 percent; large lymphs., 1 percent. *Basal metabolism*, minus 4. *Temperature*, 99°F. or subnormal.

Requirement: Give diagnosis and outline of treatment.

THE GENERAL PRACTITIONER AND DIAGNOSIS

The general practitioner may be stubbornly reactionary—laudator temporis acti—*may deny the value of the new, stick to "hunches," experience and physical examination, and thus be as prone to error as the narrowest minded specialist or the most mechanically minded technician. This is largely a defense reaction on the part of the practitioner who realizes his ignorance of much of the new knowledge. In the end it makes him a nonprogressive back number.*—DR. JAS. B. HERRICK, *Chicago, in* J.A.M.A., Feb. 16, 1929.

NEED FOR CAREFUL OBSERVATION

Quick decisions are often little more than clinical guesses, often very foolish ones. The well-being of our patients depends, in the long run, on conscientious and prolonged observation.—DR. H. W. BETTMANN *in* Ann. Intern. Med., *Dec.*, 1928.

CLINICAL NOTES AND PRACTICAL SUGGESTIONS

Collections — If any

I DON'T know whether all those present have heard the story of the three small boys who were playing "Doctor," two of them in the role of surgeons, and one of them in the attitude of patient.

Matters were progressing quite satisfactorily to all parties concerned until it occurred to one of the operators that a very important part of the proceedings had been neglected.

"Looky here, Doctor," he remarked to his colleague, "how much are we goin' to charge this here patient for this dangerous operation we're doin'?"

Promptly came the answer, "There's his pants. How much's he got?"

And I'd be willing to bet—if collections hadn't been so poor of late—that that joke was not written by a surgeon.

There is something wrong with remuneration as applied to the medical and surgical profession: Something wrong with what the profession expects, as well as with what it gets, and even more wrong with what it doesn't get.

All those who are convinced of the truth of this statement, but who don't know just what can be done about it, will please make it known by holding up their right hands.

Those who are satisfied with things "as is" must have gone home early, for the vote seems to be unanimous. Unless my eyes deceive me, I recognize a number of the laity in this audience, but they seem to be holding up their right hands with as much vigor as their professional brethren are showing.

The small town physician works day and night, and when he gets to where he must have some money or go to jail for debt, he sends out a few timid and apologetic statements of accounts due, and presto! his erstwhile grateful patients spit at him like angry cats for daring to "send them a dun." He has his choice, seemingly, of losing their gratitude or losing the cash, and quite often the net result of his modest reminder that he, like other men, must eat to live, is the loss of gratitude, cash, *and* patient.

What can he do about it? If he does not send a statement he won't get the money, and the account will keep getting larger, the patient counting on his friendly and probably neighborly relations with the doctor to save him from any embarrassing efforts at collection on the doctor's part. If he does send a statement—whoosh! All gone, from the patient himself to the last pills he consumed at the doctor's expense.

The city physician fares somewhat better. His patients are not so largely recruited from the ranks of his personal friends and therefore there does not exist that familiarity which makes even the most courteous and businesslike statement of an account, due or overdue, embarrassing. More than that, the city dweller has learned that all workers (physicians included) expect to be paid for their work just as he himself expects honest payment for honest labor. He is accustomed to receiving statements at regular intervals from all those who serve him, so that a doctor's statement is to him just one more bill to pay, and not an insult.

But even the city doctor has his troubles. While his country brother may get put off and worse, where collections are concerned, still, in a time of real emergency, he can usually get by more easily without money than his city brother can. Which is evidenced by the fact that the net result of hard times for a city physician is apt to be one more addition to the ranks of country practitioners.

All of the above is written from the physician's viewpoint. The thing that the laity will never be able to understand, even after the arrival of the memorable day when they shall have learned to recompense their physicians with cash as well as credit, is; why should one patient pay more than another patient for the same service, usually surgical? Because he is more able to? You may be able to pay more for a loaf of bread than your neighbor can pay; but what about it if one item on your grocery bill should read, "One loaf of bread, 50c"? Because there must be some cases that cannot pay at all, and the rich man must pay the beggar man's bill? How come? Because the surgeon wants to do a deed of charity, has he the right to make another man pay for it?

You see—I told you—it's all wrong, and we're back again to the first paragraph of this article, written, I insist, by a member of the laity who took to joking only after he had run out of strong language.

I can't tell you how to remedy all this? O, yes I can. Not that I expect to get anywhere by or with it, though. It would take too much cooperation, and cooperation is something that this old world has got pretty much more of everything else but.

The first plank of my platform would be: Equal fees for all.

The second would be: Statements sent out from every physician's office in the land, to every one indebted to him, regardless of whether the physician was in attendance on the patient at the time or not. Why should a doctor wait until such time as his patient (possibly his grocer) is out from under his care, before sending him a statement? Does the grocer refrain from sending his monthly bill because the doctor (he hopes) is going to need some more groceries before long? He does not!

The sending of monthly statements, if done by every physician, would mean keeping bills for medical services down to a point where they could be paid by the average person; and if it were an understood custom and practice there would be no lost patients because of hurt feelings.

Lastly, though this is not a plea for State Medicine, which, no matter in what form presented so far, has an unpleasing face, there ought to be some way by which the city, the county, the state or the U. S. government could pay the bills of those who are really unable to pay them, insuring to every man the treatment he needs, given by the man of his choice, and relieving the physician or surgeon of the necessity for overcharging some of his patients in order to be able to work on a charitable basis for others. (Incidentally, many a man would decide that he could pay his doctor's bill rather than have it known that the county paid it for him).

And not having so much compulsory charity thrust upon him, the physician or surgeon could do his self-respecting bit in that line without being driven, in order to get within even shouting distance of coming out even, to the expedient of saying of his wealthier patients, "There's his pants. How much's he got?"

FLORENCE AIRD.

Carterville, Ill.

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[We take vigorous exception to a number of the points made in this breezy and clever little article, but we are glad to print it as a statement of the viewpoint of an intelligent and observant lay-woman (the wife of a physician, by the way).

We have covered some of these matters before, here and elsewhere,* but it will do no harm to repeat a few arguments.

Mrs. Aird fails to note that, while a loaf of bread has the same *value* for the laborer as for the millionaire, and hence costs the same price, the professional skill which will save a week's disability is more *valuable* (and hence should justly cost more) to the man who earns $200 in that week than to the man who earns only $20. Nicholas Senn, one of the wisest and most humane of surgeons, figured that a major operation is worth *one month's income*—whatever that may be.

The rich man does *not* "pay the beggar man's bill"—*to the doctor*. In fact, under the present uneconomic arrangements, *nobody* does. The community or some of the various charitable organizations (to which physicians contribute liberally) pays for or provides food, clothing, shelter, fuel and other necessaries for those who are indigent —*but not for medical service*. The doctors are expected to give that, *in addition to their cash donations for other purposes*.

"Equal fees for all" may be a beautiful ideal, but the world seems not to be ripe for it, as yet. If the doctor could actually col-

*See "The 'Incompetent' and 'Avaricious' Physicians", by George B. Lake, M.D., *Med. Journ. and Rec.*, Jan. 16, 1929.

lect a reasonable fee, based on his investment, overhead and time spent, *for every patient he sees, when he sees him,* it might be practicable to scale down the cost of operations somewhat; but a charge figured upon this rational basis would not result in what Mrs. Aird (and many like her) seems to mean by "equal fees."

These people (most of them, at least) think thus: Office call, $3.00; house call, $5.00; appendectomy, $100; etc. They forget that one call may take fifteen minutes and another an hour or more; that one appendectomy may take twenty minutes and not cost the surgeon a moment's anxiety, while another will take two hours and waste a thousand dollars' worth of his strength and energy; above all, they forget that even *identical* services have different *values* for people in different circumstances.

We do not admit that, because the fee charged to one patient is greater than that demanded of another, it is, therefore, an excessive charge, based upon what he has in his "pants."

No! This is not a simple problem in arithmetic, or even in algebra. It goes down to the roots of human relations and enters the complex and fascinating domain of sociology. If we all give it our best thought and consideration it will not be more attention than is required. State Medicine is not, we are convinced, the proper answer.

If this lady's remarks about bills and statements were acted upon by every physician in the country, such a course would go far to ameliorate most of the ills of which the medical profession complains.

We shall be glad to give space to a number of well-considered and temperate discussions on this important subject.—ED.]

Experiences with Physical Therapy

ANOTHER special Physical Therapy Number of CLINICAL MEDICINE AND SURGERY will appear in September, so all who are interested in these newer methods of treatment (and what physician is not?) can begin to prepare for some interesting reading along this line.

There will, as usual, be a number of strong and practical leading articles by outstanding men in this line of work, but we should like to have a considerable group of short, snappy personal observations from men who are using physical agencies in their daily practice and know what they will do. Manuscripts of from 100 to 500 words will be especially welcome, but we can use a few as long as 1000 words.

Of course, we enjoy reading nice, clean manuscripts, typed with double spacing and good margins, on letter-size paper, properly spelled and punctuated. But even though your medico-literary experience may be limited, if you have *ideas* or *experience* or both we want to hear from you. We will fix up your stuff so you'll like it.

You do not have to be a world-famous authority to get in on this opportunity, so send your stuff along. We want to hear from a lot of you, *promptly*—your manuscript must positively be in our hands *not later* than August 10 to be included in this special number; and the sooner the better. —EDITOR.

Malaria

LIVING near a malarial district for about 28 years and having more than 50 percent of my patients malarious I have the full courage to write of malaria and its treatment.

I meet all kinds of malaria here: The intermittent, the pernicious intermittent, the remittent, and the continuous forms, as well as chronic malarial cachexia.

As soon as I take the clinical history and make a physical inspection, a look at the waxy color of the face and a feel of the enlarged spleen make a diagnosis of malaria very probable.

I sometimes find the spleen so large that it covers all the left side of the abdominal cavity, from the ribs down to the pubes, and many times I find with it plenty of ascitic fluid, due to high pressure.

I remember one case, in a young woman, of an enlarged spleen that suppurated and I had to remove the pus by aspiration. The first time I aspirated about 3 ounces of pure pus; the second time, a little less; and the third time a very small quantity, and each time, after the removal of pus, I used to knead the spleen gently, so as to obliterate the pus cavity, meanwhile giving quinine and arsenic, as a tonic, and in less than a month she was perfectly cured and the spleen returned nearly to its normal size. A year afterwards I asked about her health and they said it was fine.

Malaria prevails here in summer and autumn and in all its forms, whether the attacks are quotidian, tertian or quartan, the best remedy, as is well known, is

quinine, then comes arsenic, then methylene blue.

As soon as I am positive of my diagnosis I inject, intramuscularly, 1 Gram of quinine, and I prefer to give the injection during the attack, for I have found out that it succeeds better.

Let me tell you how I found out that quinine injections during the paroxysm succeeded better. During the World War I was a medical officer in the Turkish Army in Palestine and, having to treat hundreds of different cases of malaria, typhus, relapsing fever, cholera and dysentery, the time was so short that we could not wait for the attack of malaria to subside, so I was forced to give the injections during the attack, which not only had its effect on that particular paroxysm but it destroyed the young spores floating free in the blood stream and prevented another attack.

The next day, in my regular treatment, after the first injection, I give the patient nothing; the third day I give another injection of 0.5 Gm. of quinine and also on the fourth day; then I give him 0.5 Gm. of quinine, by mouth, every evening for five days; afterwards I give a tonic of arsenic and iron for another week and the case is generally dismissed cured.

In those persons having an idiosyncrasy to quinine, who are poisoned by small doses, and in those persons who have hemorrhagic malarial fever, to whom quinine does more harm than good, I give five grains of methylene blue, in a capsule, before going to bed in the evening and another dose of five grains early in the morning, and during the day I give three doses of Fowler's solution. The treatment is continued for one week and almost always malaria is cured.

If the patient is still weak I give an injection of cacodylate of sodium, daily for 12 days.

For children and babies I give Fowler's solution, in small doses, and sometimes, when it is needed, I inject 0.25 Gm of quinine intramuscularly.

AMIN YUSSEF, M.D.

Deir Mimas, Marj'ioun, Syria.

Pylorospasm

PYLOROSPASM is a not uncommon condition and is very distressing. In such cases I have found the following prescription useful:

℞ Tr. Opii Camph.....℥iss (48.00)
Tr. Belladon. .....℥iii (12.00)
Tr. Hyoscyam. .....℥iv (16.00)
Fl. Ext. Cannabis Ind.....℥iss (6.00)
Sod. Bicarb. .....℥ii (8.00)
Aqua, q.s. ad.....℥ iii (96.00)

M. et Sig.: A teaspoonful before or after meals, taking ½ hour before the usual time for the beginning of the pain.

When this prescription is given for a week, and alternated, week about, with 1/20-grain (3 mgm.) doses of parathyroid extract, twice a day, the results, in my hands, have been excellent.

L. M. BOSTON, M.D.

Philadelphia, Pa.

Dentistry Past the Crossroads

DENTISTRY at the crossroads may be a fitting caption for an article but if one were fully acquainted with facts one would realize that dentistry has already reached the crossroads and passed it and, having selected the proper path, is moving ahead rapidly. Dental educators and modern practitioners deplore the fact that most physicians and lay persons are not yet fully aware of what has occurred in our profession.

The young dental graduate of today emerges as a medically trained specialist and is no more related to the dentist of a decade ago than the modern physician is to the chiropractor. It is true that there are still many "tooth carpenters" who have lucrative practices "specializing" in septic dentistry. We modern men deplore this condition as heartily as physicians would, but we are powerless in doing anything to restrict these individuals. However, the dental schools have corrected this condition by greatly improving the course of study. All dental schools in the United States today are associated intimately with recognized universities, and most of these schools are linked up closely with the medical schools in these universities.

Where the older dental student dissected the head and neck for six weeks, we present-day students studied general anatomy and dissected for a year and a half. Similarly, we studied general histology, bacteriology, embryology, pathology, physiology, pharmacology, and physiologic chemistry. The young graduate of today is well trained in the basic fundamentals of the general practice of medicine.

Having had this training, the modern dentist applies it to his practice. When I examine a patient I place equal emphasis on the soft tissues as on the teeth. The cheeks, tongue, gums and oral vestibule are closely scrutinized, and then only do I look at the teeth.

The modern dentist constantly keeps in mind that great trio: syphilis, tuberculosis, and cancer. He can also remember the consideration of things as apparently far-fetched as actinomycosis, Koplik's spots, cervical lymphadenitis, lymphogranulomatosis, or what have you?

Recently, I referred a case of actinomycosis to a physician. He was amazed that a dentist could make that diagnosis and understand the microscopic picture of the ray fungus. I patiently explained that I was not a young genius, but merely a product of present-day dental training. I have had to explain this to physicians so often that I am becoming bored. I had a similar experience with another physician when I referred his patient back to him with my diagnosis of tuberculous cervical lymph glands. He thought it was a fistula draining a dental abscess!

More power to my Alma Mater! I can safely assert that the fact that the modern dentist is better versed in general medicine than the physician is in modern dentistry.

We men are trained, today, to consider ourselves as medical specialists and our present-day training does not permit us to go under false colors. Of course, there are individuals in our profession who do not make the grade ethically, as in other professions. These individuals are regarded with scorn by all ethical practitioners.

Modern dentistry *is* a specialty of medicine. Where the older practitioner prided himself on the mechanical complexity of his artificial restorations, we younger men attempt to produce the utmost simplicity in our work, seeking to restore *physiologic function* and to maintain proper oral hygiene and sanitation.

Dietetics, especially in pregnancy, is an important factor in modern dentistry, to say nothing of preventive dentistry for children. To elucidate the scope of modern dentistry properly would require a long article. Physicians should become better acquainted with modern dentistry and learn to use this powerful weapon properly in the combatting of disease.

In the matter of degrees, the Federal Government has ably handled the situation. The question was whether the dentist was to remain a high-class tradesman, or to elevate himself by proper training to really be a doctor. The Federal Government has restricted the professional title of "doctor" to *physicians and dentists only.*

The dental degree of today is not to be compared with that of a decade ago. It now is of consequence, and in view of the fact that the present-day dentist is medically trained, the medical degree, in the general practice of dentistry, is superfluous. It is not a question of degrees or title, but a question of training.

This topic is now a dead issue. It has had its proper consideration years ago, by educational organizations like the Carnegie Foundation, and has been settled in a satisfactory and amicable fashion. The thing to do is to form a closer bond between physician and dentist and cooperate more for the good of the patient.

NATHAN SIEGEL, D.D.S.

New York City.

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[There can be no doubt, in the mind of any informed person, that Dentistry has now taken its place as a serious scientific profession, and that the modern dentist well deserves the honorable title, Doctor.

In England, the surgeon is not required to be a Doctor of Medicine (Sir W. Arbuthnot Lane is merely "Mr. Lane," not Doctor Lane), but, in this country, a man cannot practice such specialties as gynecology, ophthalmology, urology, psychiatry, etc., without first taking a regular degree as a Doctor of Medicine.

Dr. Siegel has voiced the position of the *dental autonomist,* who feels that the modern, scientific dental surgeon does not need a degree in Medicine. There are many who agree with him.

He has not, however, controverted our editorial position (see CLIN. MED. AND SURG., June, 1929, p. 369), but merely stated the other side of the question—and we will admit that the other side has some reasonable arguments, but not, we think, enough.

We are glad to give space to those who differ with us, in a reasonable and gentlemanly way.—ED.]

Technic of Injections of Hydrochloric Acid

A *VALUED* reader berates us because the article by Dr. Norman M. Smith, of Minneapolis (see CLIN. MED. AND SURG., June, 1929, p. 388), did not give the full technic of intramuscular injections of hydrochloric acid, about which he was writing.

The reason why we did not insist upon this was that it had been discussed in our pages not long ago, by Drs. Burr Ferguson and Granville Hanes (see C.M. *and* S. for Aug., 1928, pp. 563 and 581.

For the benefit of any who may have missed that number, the technic is as follows:

An injection of 10 cc. of a ½ or 1-percent procaine solution (Hanes uses ½ and Ferguson 1 percent) is made deep into the gluteal muscles, followed, at once and through the same needle, by 10 cc. of a 1:3,000 solution of chemically pure hydrochloric acid in sterile, distilled water. These injections are repeated from one to three times a week, as indicated by the leukocyte count and the general condition of the patient.—EDITOR.

Chromium Sulphate

IN THE therapeutic armamentarium of most physicians, chromium sulphate is not included, yet the drug is an exceedingly useful one in numerous affections. It is claimed that in neurasthenia its results are speedy and striking, dispensing with all psychic, dietetic, and other treatment. In exophthalmic goitre, it is asserted, the tachycardia disappears, the trembling ceases and the exophthalmos is reduced to normal. It is also suggested in the treatment of tabes dorsalis, as a remedy for the muscular incoordination and weakness of the vesical and rectal sphincters.

Perhaps the most successful use for chromium sulphate is in the treatment of enlarged prostate with its accompanying manifestations; increased frequency of urination, particularly during the night, difficulty in starting the stream, dribbling, over-distension of the bladder and incontinence.

Chrominum sulphate, in doses of 4 grains (260 mgm.) each, four times a day, has been tried out in a large number of elderly men with enlarged prostate, and in some young men, with prostatorrhea, secondary to gonorrhea. In the former, the frequency of urination is relieved to a great extent, the number of times they have to void in the night much diminished, the incontinence ceases and they are able to retain the urine for several hours without discomfort, and void a good stream when necessary. In the latter, the symptoms of prostatic irritation, including the discharge, disappear.

Treatment should be continued over a period of several months, and no toxic symptoms have developed in any patient taking sixteen grains of the drug, daily, for long periods.

R. STEWART MACARTHUR, M.D.
Los Angeles, Cal.

Play Safe with X-ray Films

TO LOCK the stable after the horse is stolen may save the stable from later visitation of disaster; and again, an ounce of prevention (sooner or later) may save many pounds of trouble.

All x-ray films should be housed in a superstructure on the roof top or the upper floor, though the separate storage building on the roof is preferable for safety and should be adopted by every up-to-date institution that uses x-ray work.

This article is intended to tell why this precaution should be generally adopted, the writer having had considerable "gas" experience, overseas, in the World War, and having had the hospital with which he is connected set the example.

The idea seems to prevail (and it is quite well authenticated) that the gases which produced the poisoning and deaths in Dr. Crile's Clinic, at Cleveland, were due to a slow combustion of cellulose in the body of the films, and in the covering or emulsion of the films, which is partly a bromide base and a nickel or silver secondary body.

It is impossible to determine the exact proportion or the combination that the Eastman Kodak Company, or any other company, uses in making their x-ray films, but it seems, from the symptomatology, that the persons who originally dropped dead were killed by a low type of hydrocyanic acid gas poisoning and possibly an acute bromine vapor poisoning. It would appear from reports that the early cases were simply more or less what would occur in the strangulation of human beings; while the cases

that dropped off three, four or five days later appear to have been due to the light hydrocyanic acid gas poisoning.

Bromine vapor or gas, in itself, is an indefinite quantity as regards its gravity compared with ordinary air, but we do know that hydrocyanic acid gas has a gravity that is equal to 0.689—less than air itself at 18°C.—therefore it is lighter than air and floats. The bromine gas thrown off at the time of combustion, possibly being equal to air in gravity and partly a lighter gas with it, strangled the first patients; but the second group of patients would naturally get the effect of the hydrocyanic acid gas poisoning.

Whether there is any truth in this theory as to the poisoning, we need only to look at different excerpts from Preyer, whose experiments show that methemoglobin is formed, because of the fact that invariably, in dogs, the left ventricle was contracted, while the right ventricle was full of non-coagulated blood. When that particular combination in the blood occurs, the patient cannot absorb the oxygen that is necessary to sustain life.

The fact that a disaster has occurred to another man or group of men should not deter patients, or possible patients, from entering a hospital.

St. Joseph's Hospital, at Tacoma, Wash., in order to act for the good of the patient at all times and to make things doubly safe with regard to accidents which might occur in the x-ray department, transfers the record films to the *top floor*, because of the fact that the gases, being lighter than air (even if hydrocyanic acid gas and bromine gas are put together) are bound to float. If the gases travel upward, as ordinary heated air should, then we are safe in saying that gases, even those occurring after an explosion in the files, are not apt to disturb any of the patients or produce poisoning.

Jos. S. Smeall, M.D.

Tacoma, Wash.

A Doctor's Orchestra

WE WERE glad to note the reference to our orchestra in Clinical Medicine and Surgery (May, 1929, p. 363) and it occurred to me that your readers might like to know more about us.

Our organization was formed in 1926, so that we are completing our third successful season in June, having given an average of nine concerts, for medical and dental societies and hospitals, each season. Our playing has been a pleasant surprise to most of our hearers.

Our membership consists of 16 physicians, 6 dentists, 7 medical and dental students and four or five others who are members of the families of doctors or dentists. The average attendance at practice this past season has been 18, which speaks well for the enthusiasm of the members.

Next season we plan to play a higher grade of music than we have hitherto attempted, but shall always include in our programs the better class of "light" music, which (especially stirring marches) seems to be popular with our audiences.

Our members are a loyal group of good fellows, who obey the director and cooperate splendidly in every way.

A. S. McCormic, M.D., *Director.*

Akron, Ohio.

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[Extra-professional organizations like this are wonderful things for physicians, dentists and others whose work tends to make them hard-shelled individualists. It broadens their intellectual and emotional outlook, enlarges their sympathies and makes them better citizens, better neighbors, better doctors or dentists and better *human beings*.

We should like to see organizations along similar lines in every city which has a hundred or more physicians and dentists.—Ed.]

Objects of the Gorgas Memorial

1.—Eliminate unnecessary illness.

2.—Prolong life, make it healthier, more productive, and enjoyable.

3.—Check many diseases before they reach the incurable state.

4.—Eradicate tropical diseases; open up territories of unlimited wealth and add enormously to the world's assets.

5.—Eradicate pestiferous and disease-bearing mosquitoes (Malaria alone exacts an annual toll of $100,000,000).

6.—Build up the 25,000,000 youths and adults in the United States, now physically below par.

7.—Lay the foundation for healthier future generations.

8.—Have every individual submit to a periodic health examination by his family physician, who should be the custodian of health.

9.—Prevent disease, and thereby—

a.—Relieve the nation of $1,500,000,000 of its annual sick bill.

b.—Prevent the present annual loss of 350,000,000 hours of time caused by preventable illness of 42,000,000 employes.

c.—Save the $3,000,000,000 lost annually through reduced earning power.

d.—Save 750,000 lives annually.

10.—Bring about a liaison between the public and the scientific medical and dental professions, the real health authorities.

11.—Free all the world from preventable disease, to which purpose the life of Gorgas was consecrated.

Consultation Requested

(Pain in the Legs)

THE patient, upon whose case I should like to receive helpful suggestions, is a man 68 years old, weighing 190 pounds and 71 inches in height, whose history shows remarkable health throughout his life. His only illness was a doubtful musculospiral neuritis and cervical arthritis several years ago, at which time his teeth were extracted, as a possible source of infection. His tonsils are vestigial. There has been no trouble of this sort for more than two years. There has been no edema or dyspnea at any time.

His only *complaint* is that, beginning about nine months ago, when he walks at all rapidly, he is promptly seized with cramping pains in the calves of both legs, so that he has to stop and lean against something for support. If he walks very slowly he does not have this trouble. Other than this he feels perfectly well—his appetite and digestion are excellent and sleep normal. For two years or more he has been on a low-purin diet, with little salt.

My first *examination* showed the blood and urine normal; the blood-sugar and basal metabolism within the normal range; blood pressure, 135 syst., 70 diast.; arches of the feet, normal.

A very recent examination shows: Wassermann and Kahn tests, negative; urine (a very thorough analysis) normal in every respect, except a high content of creatinin; blood picture, including the Arneth count, entirely normal; blood pressure, 132/72; kidney function normal.

I have thought of arteriosclerosis, but if that condition is present, why is his blood pressure so low and his kidneys in such good condition?

I sincerely desire to help this patient and will appreciate any suggestions which will lead me to a diagnosis and a successful line of treatment.

DAVID EDWARDS ALLEN, M.D.
Chicago, Ill.

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[One's first thought is abnormality of the metatarsal arches; next, arteriosclerosis. The first seems to be ruled out and the second doubtful.

In a man of this patient's age, prostatic changes can sometimes cause symptoms in the legs, and we suggest an investigation of that organ.

Massage and infrared treatment to the legs might help.

We shall be glad to receive further ideas. —ED.]

Sodium Bicarbonate and Urea Excretion

PERMIT me to thank readers of CLINICAL MEDICINE AND SURGERY for their interest in my article "Sodium Bicarbonate in the Urine" and to apologize for not making myself entirely clear regarding urea excretion in the urine of those who take bicarbonate in excess. I did not intend to convey the impression that sodium bicarbonate lowers the percentage of urea. In fact, so far as I know, it has no influence at all upon urea excretion. But inasmuch as, like any other soluble substance, it tends to raise the specific gravity of urine, it thus makes the

urea percentage *appear* low in comparison. For example, if we find the specific gravity 1.028, we naturally would expect a urea percentage not less than 1.5 and, more likely, above 2. But, finding in such a case a urea percentage of only 0.8, we naturally suspect that the patient has taken internally some soluble salt in abundance, which has raised the specific gravity higher than the normal urinary solids account for. Hence we investigate the case, first, along the line of sodium bicarbonate.

Again, I am aware that sodium bicarbonate is not the only soluble salt capable of raising the specific gravity of the urine, when taken internally by the patient. Sodium chloride, sodium phosphate, the bromides, magnesium sulphate and sodium sulphate are all capable of so doing, if taken in sufficient amount; but, so far as I know, none of these occupies the same position, pharmacologically, with reference to addiction, as does sodium bicarbonate, hence all are secondary in therapeutic importance along this line.

Lastly, I did not wish to create the impression that my nickel sulphate test was characteristic of sodium bicarbonate alone. All urines containing soluble carbonates react "positive" with nickel sulphate solution; hence all alkaline urines will give a positive reaction with this test, which I devised, primarily, for the purpose of determining the degree of alkalinity of a given specimen. To repeat the last sentence in my article in the May, 1929, CLINICAL MEDICINE AND SURGERY: "Urine naturally alkaline when voided and containing no sodium bicarbonate at all may show . . . a precipitate with the nickel sulphate".

CLIFFORD MITCHELL, M.D.
Chicago, Ill.

The First Year

IT MUST be admitted that the first year of life is of the greatest importance to any child, for the results of proper care or neglect, as the case may be, will appear later. Certainly nothing can be sadder than to see a poorly-nourished, anemic-looking child fighting for its very life, instead of enjoying the natural and proper growth of a child properly and humanely started.

Formerly the death rate in the first year of life was appalling: 274 out of every 1,000 children died, 15 or 20 years ago; but today a much better and brighter picture is before us, only 67 out of a 1,000 succumbing during the past year. This change was brought about by:

1.—Better feeding of infants.
2.—Purer milk.
3.—Education of mothers.
4.—The early administration of orange juice and cod-liver oil, plus proper use of fresh air and sunshine.

But even today the infant mortality is not what we want it to be, and a lower death rate is possible and desirable. It is for this object that this plea is made.

Three cases which recently came under my observation bring home forcibly to me the need of teaching mothers to take their babies *regularly* to physicians for examination and advice as to feeding, clothing and hygienic measures throughout the first year of life. At least two of these infants could have been saved, in my opinion, had the respective mothers placed their babies under good, careful and rational supervision.

Case 1.—M. C., age 8 months, white, breast fed one month, then whole milk and lastly Mellin's food. No orange juice or cod-liver oil was ordered and very little sunshine. This infant became ill and shortly developed convulsions.

On examination I found a large, pale and flabby child, approximately 20 pounds in weight. It was impossible to arouse the baby from the convulsion. Cervical and inguinal glands were palpable; the breathing was short and labored. The child died 15 minutes later.

The mother informed me that the child had had spells of holding its breath; with cyanosis and a slight irritative cough. This history fairly establishes the diagnosis of *enlarged thymus*.

Comment: In this case an early x-ray study and a properly modified cow's milk formula might have prevented this catastrophe. This same mother had a child with spasmophilic convulsions, but fortunately proper methods averted any further damage here. The mother promised to place her future children under a physician's care, which she has failed to do.

Case 2.— L. R., age 18 months, colored, breast fed during its entire life. No orange juice or cod-liver oil was given, in fact, the child had no other food but breast milk—and a minimum amount of sunshine and fresh air.

An attack of whooping cough was neglected for three weeks, when suddenly the child had a convulsion at midnight, which lasted one hour and resisted all measures for relief and in which the baby died.

The examination showed an apparently well-nourished, flabby child, about 24 pounds in weight. The cervical, epitrochlear and inguinal glands were palpable. Only six teeth were present. A diagnosis of whooping cough, plus malnutrition, was made.

Comment: A proper and varied diet, plus cod-liver oil and sunshine, and weaning at one year of age, at the latest, would have built up resistance and enabled the child to fight the whooping cough, Again, a freshly prepared pertussis vaccine (for which I have a great regard, in children under two years of age), plus the proper medication, would almost certainly have modified the course of this disease.

I am well aware that whooping cough with convulsions is a most formidable combination, but I do feel that the convulsion might have been prevented had *all* been done for the child which could have been done. I must add this case to the list of the neglected.

Case 3.—A. B., age 3 months, white, birth weight 8½ pounds. No breast feeding; started on Dryco, followed by condensed milk, Mellin's food and finally a whole cow's milk feeding. These foods were given by the mother, aided by the advice of friends, but not one of them was ordered by a physician, except the original Dryco feeding. No orange juice or cod-liver oil was given.

The baby had continual colic and diarrhea and was gradually but surely losing weight. The mother was told by friends that *all* children had colic and she was comforted by this choice bit of expert knowledge. To cap the climax, the baby developed acute coryza, complicated by right-sided otitis media, and finally a virulent gastroenteritis of three days duration, ending in death. Medical advice was first sought during the gastroenteritis, but in spite of heroic measures the baby died.

Comment: If ever there was a case of neglect, this deserved first prize. Three months of gastrointestinal insult lowered the resistance of that tract, rendering it an easy prey to infection. Even the acute coryza and a purulent middle ear disease failed to stir that mother to action.

If mothers would only learn to turn a deaf ear to this outside neighborly advice and seek the proper instructions, especially when a baby's progress and life are at stake, then the already lowered infant mortality would become still lower.

These three cases are presented with the thought in mind of stirring up both physician and mothers to realize the prime importance of watching an infant carefully during the all-important first year.

A child may seem to be pursuing a perfectly normal course, in the mother's eye, while some defects are slowly but surely pulling down the resistance of the child, thus weakening the resistance to fight the unavoidable assaults to which every child must be subjected. How often a timely x-ray picture will prevent death from an enlarged thymus! How often a proper formula will adequately feed the child and regulate its weekly gain! Cod-liver oil, orange juice, tomato juice, the early allowance of properly prepared soups and vegetables, with the addition of fruit juices, a ripened banana and cereals, all should be a part of an infant's first-year menu.

Advice on clothing, the value of sunshine and fresh air, with ultraviolet irradiations as needed, boiled water and suitable sleeping quarters—all are of inestimable value to growing infants. Regular visits to a qualified physician to obtain his advice on weight, formulae and general medical supervision are of the highest importance in steering an infant through the dangerous first year of life.

Much has been accomplished in the past fifteen years: More can and must be accomplished to lower the infant mortality of the first year. I am confident that, during the next five years, we shall see much progress in this important field of lowered infant mortality.

CLARENCE G. THOMPSON. M.D.
Norwich, Conn.

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[Neglect is a strong word to use regarding a mother's treatment of her child, but on the evidence presented in these three cases it seems to be appropriate, even though complete and positive diagnoses were not made.

This report illustrates the widespread ignorance regarding the proper care of infants, and also the fact that even satisfactory foods, if used unintelligently, will not accomplish their purpose.

The moral of this tale is that physicians should be untiring in their efforts to educate the public as to what consistent medical supervision means and how inestimably valuable it may be.—ED.]

Oath of Hippocrates

"I swear by Apollo the physician and Aesculapius, and I call Hygeia and Panacea, and all the gods and goddesses, to witness, that to the best of my power and judgment I will keep this oath and this contract: to wit, to hold him who taught me this art equally dear to me as my parents; to share my substance with him; to supply him if he is in need of the necessaries of life; to regard his offspring in the same light as my own brothers, and to teach them this art, if they shall desire to learn it, without fee or contract; to impart the precepts, the oral teaching, and all the rest of the instruction to my own sons, and to the sons of my teacher, and to pupils who have been bound to me by contract, and who have been sworn according to the law of medicine.

"I will adopt that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and will protect them from everything noxious and injurious. I will give no deadly medicine to anyone, even if asked, nor will I give any such counsel, and similarly I will not give to a woman the means of procuring an abortion. With purity and with holiness I will pass my life and practice my art . . . Into whatever houses I enter I will go into them for the benfit of the sick, keeping myself aloof from every voluntary act of injustice and corruption and lust. Whatever in the course of my professional practice, or outside of it, I see or hear which ought not to be spread abroad, I will not divulge, as reckoning that all such should be kept secret."

The Law of Hippocrates

Medicine is of all the arts the most noble; but, owing to the ignorance of those who practice it, and of those who, inconsiderately, form a judgment of them, it is at present far behind all the other arts. Their mistake appears to me to arise principally from this, that in the cities there is no punishment connected with the practice of medicine (and with it alone) except disgrace, and that does not hurt those who are familiar with it. Such persons are like the figures which are introduced in tragedies, for as they have the shape, and dress, and personal appearance of an actor, but are not actors, so also physicians are many in title but very few in reality.

2.—Whoever is to acquire a competent knowledge of medicine, ought to be possessed of the following advantages: a natural disposition; instruction; a favorable position for the study; early tuition; love of labor; leisure. First of all, a natural talent is required; for, when nature leads the way to what is most excellent, instruction in the art takes place, which the student must try to appropriate to himself by reflection, becoming an early pupil in a place well adapted for instruction. He must also bring to the task a love of labor and perseverance, so that the instruction, taking root, may bring forth proper and abundant fruits.

3.—Instruction in medicine is like the culture of the productions of the earth. For our natural disposition is, as it were, the soil; the tenets of our teachers are, as it were, the seed; instruction in youth is like the planting of the seed in the ground at the proper season; the place where the instruction is communicated is like the food imparted to vegetables by the atmosphere; diligent study is like the cultivation of the fields; and it is time which imparts strength to all things and brings them to maturity.

4.—Having brought all these requisites to the study of medicine, and having acquired a true knowledge of it, we shall thus, in travelling through the cities, be esteemed physicians, not only in name but in reality. But inexperience is a bad treasure, and a bad fund to those who possess it, whether in opinion or reality, being devoid of self-reliance and contentedness, and the nurse both of timidity and audacity. For timidity betrays a want of powers, and audacity a lack of skill. There are, indeed, two things, knowledge and opinion, of which the one makes its possessor really to know, the other to be ignorant.

5.—Those things which are sacred, are to be imparted only to sacred persons; and it is not lawful to impart them to the profane until they have been initiated in the mysteries of the science.

No Chance for Error

"Are you sure," an anxious patient asked a physician, "are you sure that I shall recover? I have heard that doctors sometimes give wrong diagnoses, and have treated patients for pneumonia who afterwards died of typhoid fever."

"You've been woefully misinformed," replied the medico indignantly. "If I treat a man for pneumonia he dies of pneumonia."—*The Tatler.*

What is Golf?

Golf is a form of work made expensive enough for a man to enjoy it. It is physical and mental exertion made attractive by the fact that you have to dress for it in a $200,000 clubhouse.

Golf is what letter-carrying, ditch-digging and carpet beating would be if those three tasks had to be performed on the same hot afternoon, in short pants and colored socks, by gouty-looking gentlemen who require a different implement for every mood.

Golf is the simplest looking game in the world when you decide to take it up, and the toughest looking after you have been at it ten or twelve years. It is probably the only known game a man can play as long as a quarter of a century and then discover it was too deep for him in the first place.

The game is played on carefully-selected grass, with little white balls, and as many clubs as the player can afford. These balls cost from 75 cents to $25.00 each, and it is possible to support a family of ten people (all adults) for five months on the money represented by the balls lost by some golfers in a single afternoon.

A golf course has eighteen holes, seventeen of which are unnecessary and put in to make the game harder. A "hole" is a tin cup in the center of a "green." A "green" is a small parcel of grass costing about $1.98 a blade, and usually located between a brook and a couple of apple trees, or a lot of unfinished excavation.

The idea is to get the golf ball from a given point into each of the eighteen cups in the fewest strokes, and the greatest number of words.

The ball must not be thrown, pushed, or carried. It must be propelled by about $200.00 worth of curious looking implements, especially designed to provoke the owner.

Each implement has a specific purpose, and ultimately some golfers get to know what that purpose is. They are the exceptions.

After each hole has been completed, the golfer counts his strokes. Then he subtracts six and says: "Made that in five. That's one above par. Shall we play for fifty cents on the next hole, too, Ed?"

After the final or eighteenth hole the golfer adds up his score and stops when he has reached eighty-seven. He then has a swim, sings "Sweet Adeline" with six or seven other liars, and calls it the end of a perfect day.—*Author unknown.*

Patient: "I have a terrible rumbling in my stomach, like a wagon going over a bridge."

Doctor: "Very likely that truck you ate for dinner last night."—*Angier Idea.*

Resourcefulness

A chap came out of the theater only to find a policeman standing by his auto, where he had thoughtlessly parked it, beside a fire hydrant.

Instead of claiming it and making certain of a summons, he went to a midnight supper, waited an hour and then reported to the police that his car had been stolen.

In a few minutes word came that his car had been found. He was told where it was —beside the fire hydrant. He went there and claimed it, thanked the cop and drove home.

A Japanese Farewell

Having occasion to be present at the deathbed of a Japanese lady I noticed that each of her friends who came in immediately procured a glass of water and, after touching it to the lips of the dying woman, took a sip from it.

I asked one of those present the significance of this action, to which he replied, "In our country it is the custom, when one goes on a journey, for his friends to come in and drink a glass of wine with him, wishing him success and a safe return. If, however, the journey is to be particularly long and hazardous, as when a man is going into battle or the like, they drink water instead of wine.

"This poor woman is about to set out on the longest of journeys, whose end no man knows, hence her friends all desire to drink water with her before the parting."

GEO. B. LAKE

Our Doctor

See him walking up the street,
Head erect and clothes so neat,
Soldier-like from head to feet,
Our doctor.

When you're sick he gives you pills,
Cures you of all human ills;
When you're better sends his bills,
Our doctor.

First he greets you with a frown,
Looks you over, calls you down,
Gives you half the dope in town,
Our doctor.

Then your pulse he calmly takes,
While a joke he dryly makes.
Asks you if you'll pull up stakes,
Our doctor.

On the whole he's rather nice,
Makes you better in a trice,
And you'll want to see him twice.
Our doctor.

Though he knows no cash forthcoming,
Though the wintry blasts are humming,
Still you see him bravely coming,
Our doctor.

Where the foes of human life
Lift their arms in deadly strife,
There he fights too, with his knife,
Our doctor.

Where disease and death are working
Hand in hand, where danger's lurking,
There he goes, no duty shirking,
Our doctor.

Though sometimes we dare to doubt him,
Still we couldn't do without him,
For no raging storms can flout him,
Our doctor.

GRACE DAVIS VAUGHAN,
St. Martin, N. B.

Easily Recognized

"What kind of a store is that fellow over at Tick Ridge running?" asked a motorist.

"Well," he has Ford parts for sale," replied the attendant in the filling station, "buys butter, eggs and poultry, deals in real estate, paints houses, marries folks in his capacity as justice of the peace, runs the post office, sells stamps, hams, molasses, etc., and takes boarders upstairs. I reckon you'd call it a drug store."—*Laughing Gas.*

Advertising in 1950

If the used car folks can advertise to get rid of their surplus and unwanted relics which have accumulated over a period of months and years, we see no reason why the medical profession cannot follow suit. Our successors may see such advertisements in the daily classified columns as these:

For Sale: Migraine patient; good for ten calls a month, guaranteed. Thinks it is an inherited trait, but mostly due to overeating and alcoholism of periodic nature. Easy terms, or will take fat, elderly, reducing patient in trade. Address P.D.Q.

For Sale, Cheap: Swell looking, blonde patient; rarely any definite disorder; needs sympathy, mostly. Valuable patient. Only trouble is collecting from husband. Could be worked into good account. Make offer. Box 345.

Will Trade: Six night-call families, good pay, for one day call chronic; neurastheinc female preferred. Must be of long standing. Address, Uptown F.G.T.

—*Medical Pocket Quarterly.*

My Paw

Paw sez a woman they call a di-vor-see
Is the dangerousest woman they is—unless, mebbe,
The one that wants to be.

—B. H.

Diagnostic Pointers

Eosinophilia in Hay-Fever

Eosinophile cells occur normally in the blood in an average of about 2 percent. These cells increase in various pathologic conditions, the reason for which is not clear.

A study of a number of patients with hay-fever, treated with pollen extract, seemed to indicate that the increase in eosinophiles was a shock reaction. The amount of pollen extract used in these cases was not enough to cause the reaction. —Dr. L. Stenberg, New York, *Am. J. Med. Sc.*, July, 1928.

"Cured" Pyuria

Be suspicious of a pyuria which clears up abruptly. It may be a blocked pyonephrosis.—*Urol. and Cutan. Rev.*

Anaphylaxis Transmitted from Mother to Offspring

A guinea pig sensitized to asthma prior to or during pregnancy will sensitize her offspring in utero, if the placenta is permeable.—B. Ratner and L. Gruehl, in *Proceed. Soc. for Exper. Biol. and Med.*, Oct., 1928.

Causes of Insanity

The four definite causes—alcoholism, syphilis, fear and heredity—are responsible for 80 percent of all insanity and mental defectiveness throughout the world.—Dr. W. B. Kern, Los Angeles, Calif., in *Med. Herald*, April, 1928.

Carcinoma of the Rectum

The grade of malignancy has a direct bearing on the percentage of metastases; the percentage of cases showing metastases increases with the grade; the percentage of cases without metastases increases in inverse proportion to the grade.

The total of good results following surgical operation, when metastases were present, was 20.68 percent and the total poor results 79.31 percent. When metastases were absent the total of good results was 57.87 percent and the total of bad results 42.12 percent.—Drs. F. W. Rankin and A. C. Broders, Rochester, Minn., in *Surg. Gynec. and Obst.*, May, 1928.

Testing Urine for Sugar

In any case of suspected diabetes, the urine specimen for examination should be obtained after the heaviest meal of the day. The specimen secreted at the flood period of digestion will show sugar if there is any tendency toward diabetes. The early morning specimen, so commonly used for routine examination, will not give evidence of diabetes unless the general condition is such that glycosuria is constantly present.—Dr. E. J. Wannamaker, Jr., in *Southern Medicine and Surgery*, June, 1928.

Myotonia

In a case of myotonia which resisted the usual treatments, the blood calcium was found deficient. Rapid and continuous improvement to complete recovery followed administration of **calcium lactate.**

Rosenbloom and Cohoe found reduced blood calcium in all the members of a family with familial myotonia.—Dr. C. E. Kiely, Cincinnati, in *J.A.M.A.*, Aug. 11, 1928.

Fluorescence in Dermatology

In *Am. J. Physical Therapy.*, Aug., 1928, Dr. H. Goodman gives the appearance of different skin conditions and diseases when seen under the rays from a mercury vapor lamp passed through a filter which permits the passage of ultraviolet rays to 2400 A.u. and a small modicum of visible violet rays.

Fluorescence, as observed through Wood's glass, in different pathologic con-

ditions of the skin reacts differently according to the nature of the disease and can be used as a method of early diagnosis and in many cases of differential diagnosis.

Albuminuria

When you discover albumin in the urine, always find out what medicines the patient is taking.—*Urol. and Cutan. Rev.*

Pelvic Phleboliths

I have had an extraordinary case of nine phleboliths in the true pelvis of a woman, any one of which might easily have been mistaken for a ureteral stone, if roentgen-rays catheters had not been used.—Dr. Victor C. Pedersen, New York, in *Med. Times*, May, 1928.

Factors Predisposing to Rheumatic Infection

The factors predisposing to rheumatic infection in childhood are: unstable nervous system, digestive disorders and weakness of lymphoid defense. When these factors are all marked there is serious danger of heart infection and chorea.—Dr. A. D. Fordyce, Liverpool, Eng., in *M.J. and Record*, Nov. 7, 1928.

Glaucoma

Every condition where the cornea and iris are involved is not necessarily a limited affection of these tissues. There may be acute, congestive glaucoma. In this disease the general practitioner is often the first to be called, as the onset is usually so sudden and the pain so severe that it cannot be localized by the patient. When acute, severe headache is accompanied by nausea and vomiting, carefully examine the eyes to exclude glaucoma.—Dr. Meyer Wiener, St. Louis, in *Illinois M.J.*, Nov., 1928.

"Acute Indigestion" and Coronary Thrombosis

Acute coronary occlusion (thrombosis) is often associated with or is the cause of abdominal signs and symptoms, and occasionally it will simulate an acute surgical condition of the abdomen. In a group of 192 cases of angina pectoris studies, 72 cases could be classed as due to acute coronary obstruction. Frequently these cases are diagnosed as acute indigestion and the underlying pathologic condition is entirely overlooked.—Drs. T. Homer Coffen and H. P. Rush, Portland, Oregon, in *J.A.M.A.*, Dec. 8, 1928.

"Gymnasium Itch"

The common use of public baths; especially those in schools and gymnasiums, has led to such an epidemic of mycotic eczema that the disease has popularly become known as gymnasium itch.—Dr. A. Davidson, in *Urol. & Cutan. Rev.*, Feb., 1928.

Fate of Iodized Oil in the Lungs

An investigation in cats showed that iodized oil, intratracheally injected into the lungs, was apparently removed by phagocytic action and that it was neither absorbed nor digested.—Dr. A. L. Brown, San Francisco, Calif., in *Surg. Gynec. and Obst.*, May, 1928.

Angina Pectoris

The pain of angina is *substernal*, rather than precordial. The sense of *constriction* may be worse than the pain.

If angina is associated with hypertension, it is often relieved when the blood pressure is lowered—Dr. Frederick J. Kalteyer, Philadelphia, Pa.

Symptoms and Signs

Symptoms indicate that a patient is ill; while physical signs point out only the mischief that has been done.

Symptoms, without physical signs, demand treatment; while signs without symptoms often require only careful watching.

Physical signs tell, by inference, what *has* happened in the lungs; symptoms, what *is* happening. The general condition is more important (for prognosis) than are the physical signs or the history.—Dr. Lawrason Brown, "Tuberculosis Theses."

Painless Cancers

Cancer, in an aseptic and free-lying organ, such as the liver, may progress for many months without causing serious pain or discomfort. When the new growth is

confined (as in bone), in close relation to nerves or exposed to infection, with resulting ulceration, pain is an early and prominent symptom.—W. J. MAYO, in *Proc. Staff Meetings Mayo Clinic*, Oct. 17, 1928.

The Sympathetic System

The sympathetic nervous system is not essential to a quiet and orderly existence, but it *is* necessary to meet the shocks and stresses of life. It is an *emergency* system. —DR. WALTER B. CANNON, Boston, Mass.

Hyperthyroidism and Cardiac Decompensation

The thyrotoxic patient with cardiac decompensation, who is able to be transported to a hospital and lives long enough to have a diagnosis made, will be able to stand an operation. When the heart irregularity has been controlled by digitalis, these patients can undergo subtotal thyroidectomy, under *ethylene* (*not* nitrous oxide and oxygen), after which most of them will regain compensation and be able to get about comfortably.—DR. FRANK H. LAHEY, Boston, Mass.

Heart Complications in Gonorrhea

A gonorrheal patient who complains of precordial pain, palpitation, irregular heart beats or dyspnea should be *put to bed* and very carefully examined.—*Urol. and Cutan. Rev.*

Acute Abdominal Disease

The principal lesions simulating acute, intraperitoneal abdominal diseases are:

1.—Pleurisy.

2.—Central pneumonia of the lower lobes.

3.—Embolism of the pulmonary artery.

4.—Angina pectoris.

5.—Kidney stone or *B. coli* infection of the kidney.

Pulmonary diseases begin with a rigor and the temperature goes to 103°F. or above. When pain is due to pleuropulmonary affections and the abdomen shows board-like hardness, if the patient lies on his back and breathes deeply the abdomen will move up and down *as a unit*

A case of pulmonary embolism has been diagnosed as a perforated gastric ulcer.

The first pain from ureteral stones and other urologic diseases is at the costovertebral angle or between the ribs, and is most severe just under the ribs; while the early pain in appendicitis is severest in the epigastric or umbilical region.—FARQUAHR MACRAE, F.R.C.S., Glasgow, Scotland.

Intestinal Protozoa

There are many harmless amebas and flagellates which reside in the human bowel, but only two organisms of this type are definitely and regularly pathologic to their hosts. These are *Entameba hystolytica* and *Balantidium coli*.—DR. KENNETH M. LYNCH, Charleston, S. C.

Hematuria

Hematuria is always pathologic and must be fully investigated, from the meatus to the renal cortex.

If the condition is painless, we must consider general diseases and the patient's *occupation* (painter, etc).

Kidney pain is best elicited by laying one hand over the kidney region and gently thumping it, using the other fist as a hammer.—DR. WM. E. LOWER, Prof. of G.-U. Diseases, Western Reserve Univ., Cleveland, O.

The History in Sinus Disease

In studying sinus disease, the history is most important. A nasal infection, with continuing discharge, following measles, whooping cough or other of the acute respiratory diseases, generally indicates infection of the sinuses—probably more than one.—DR. WM. V. MULLEN, Crile Clinic, Cleveland, O., in *Bul. Chicago M.S.*, Aug. 11, 1928.

Angina Pectoris and Coronary Occlusion

The condition most likely to be confused with the more severe attacks of angina pectoris is acute coronary occlusion. The chief characteristics of this condition are these: The pain is much more severe than that of angina (it is terrific, often requiring repeated full doses of morphine for relief), nitrites are of no avail; the pain is much

more protracted, lasting for hours; the patient is severely shocked, the face ashen or very pale and covered with cold perspiration; the pulse is small, thready and rapid. —DR. W. H. LONG, in *Minn. Med.*, March, 1928.

Acidosis

The presence of large amounts of acid in the body is usually indicated by the presence of a large amount of ammonium salt in the urine.—DR. W. E. HEWITT, in *Med. J. Australia*, Jan. 14, 1928.

Alcohol and the Wassermann Test

Do not use serum for a Wassermann test if the patient has recently been drinking alcoholics, since they may change a positive into a negative reaction.—*Urol. and Cutan. Rev.*

Latent Tuberculosis

Latent tuberculosis is tuberculosis unaccompanied by significant symptoms or physical signs. Severe latent lesions are found most often in families in which some member is suffering from open tuberculosis, and children in such families should be systematically examined for such lesions, by x-rays and tuberculin tests. An active tuberculin reaction, in a child with a tuberculous lesion recognizable by x-ray examination, is presumptive evidence that the lesion has not healed.—DR. E. L. OPIE, in *Am. Rev. Tuberc.*, 1927, p. 468.

The Electrocardiogram

A bad prognosis is indicated by the following:

1.—Negative T. waves in leads 1, 1-2, 2-3 or 1-2-3.

2.—"Coronary T. waves" in lead 1 and lead 2.

3.—Small Q.R.S. complexes in all leads.

4.—Slurred, notched or splintered Q.R.S. complexes in all leads.

5.—Bundle-branch block, permanent.

6.—Complete heart block, permanent.

7.—Arborization block.

DR. J. KOPECKY, in *Texas St. Jour. Med.*, Nov., 1928.

Diagnosis by Smell

A diagnosis of pellagra can almost be made from the smell of the disease alone. The odor, as nearly as can be described, is that of sour or musty bread.

There are many diseases that can be detected by the trained sense of smell and it might be advisable for physicans to cultivate the power to "smell out disease."—DR. CURRAN POPE, Louisville, in *Am. Medicine*, Sept., 1928.

Hypertension in the Menopause

Functional hypertension is a very common symptom of the menopause. This, in some cases, develops into an organic hypertension with arteriosclerosis and chronic heart or kidney disease. From 10 to 30 percent of cases of organic hypertension in women represent a continuation of uncontrolled menopausal hypertension.

Successful treatment of hypertension of the menopause will reduce the incidence of apoplexy and cardiovascular renal disease in women.—DR. A. L. NIELSON, Harlan, Iowa, in *Am. J. Obst. and Gynec.*, Feb., 1928.

Leukocyte Counts in Tuberculosis

In pulmonary tuberculosis, an increase in the percentages of polymorphonuclear neutrophile cells and monocytes, with a decrease in the lymphocytes, points to activity and extension of the lesion; while the converse (increase of lymphocytes and decrease of neutrophiles and monocytes) indicates improved lung condition.— DR. JOHN W. FLINN, Prescott, Ariz., in *Annals Int. Med.*, Jan., 1929.

"Traumatic Orchitis" a Misnomer

Seminal vesiculitis, not contusions or strains, is responsible for the epididymitis commonly diagnosed "traumatic orchitis."

Strain is as inconceivable a factor in orchitis as in tonsillitis.

Epididymitis appearing after an injury is practically always due to a preexisting gonorrheal or tuberculous infection.—DR. MILEY B. WESSON, San Francisco, in *J.A.M.A.*, Dec. 15, 1928.

Current Medical Literature

Milk Injections in Pelvic Inflammations

Dr. R. E. Watkins, of Portland, Ore., writing in *Northwest Med.*, Feb., 1929, has found milk injections of value in the treatment of pelvic inflammations, especially of the gonorrheal type, in women.

Protein therapy is of value in calling forth greater fighting power in the cell, stimulating it to greater activity when the power of resistance to infection has become weakened or exhausted by constant efforts. Thus it is now a definitely established fact that many infectious diseases can be cured by the introduction into the body of nonspecific substances which, in themselves, have no relation to the infection under treatment.

The reactions to milk injections are not marked. Locally, after intramuscular injection, there is a moderate swelling and tenderness at the site of injection lasting two or three days. The general reaction, chill and moderate fever with mild malaise, occurs perhaps in 6 to 8 hours following the injection. There is prompt relief of pelvic pain, the general condition is much improved, the appetite returns and the patients look and feel much better.

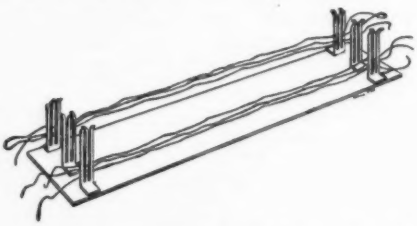
Ordinary cows milk is used. It is centrifuged, the fat removed and the balance put in a boiling water bath for 10 minutes.* The injection is made in the gluteal region, using a long, sharp needle. The initial dose should be 5 cc. injected deep in the muscle. This is followed in 2 days by the injection of 10 cc. Subsequent injections when necessary are given every two days.

Many patients recover entirely without surgery under this treatment and those who have to undergo operation seem to be better surgical risks after having milk injections.

Device for Cutting and Handling Catgut at the Operating Table

Dr. S. McLanahan, in *J.A.M.A.*, Mar. 30, 1929, describes a device used in the operating room of the Johns Hopkins Hospital, where it has been found to shorten materially the time required to prepare catgut.

The device consists of a brass plate with three pairs of brackets to hold the strands of catgut, each bracket being, in this particular instrument, 12½ inches from its fellow (the distance of a "third-length"). The brackets do not grip the strands too tightly and the resistance is so uniform that one strand, when pulled, does not drag its neighbor.



After being properly soaked, one end of the long piece of catgut is inserted in one bracket; it is carried to the second bracket, back to the first and again to the second. As many more lengths as are required are similarly treated. With a single cut of the scissors the loops projecting from the brackets are severed, converting the catgut into third-lengths arranged in position for use.

Catguts of different specifications are similarly placed in other brackets.

A wet towel or sponge is placed over the catgut.

Diuresis Following Injections of Water-Soluble Bismuth

Only a fleeting diuresis results from the injection of insoluble compounds of bismuth, or soluble compounds in oil. Yet a sustained diuretic action is much to be desired in conditions such as edema and anasarca, where diuretics are indicated.

In *J.A.M.A.*, Apr. 27, 1929, Dr. P. J. Hanzlik and associates, of San Francisco, report that definite, prolonged diuresis can be obtained with water-soluble compounds of bismuth, especially with bismuth-sodium tartrate.

When injected intramuscularly, the bismuth tartrates have a relatively low toxicity. The content of bismuth, however, varies considerably in different preparations. The bismuth sodium tartrate accepted for *New and Nonofficial Remedies* and used by the authors contained 73.8 percent of bismuth. In rats, the maximum tolerated doses range from 0.1 to 0.15 Gm. per kilogram of weight; but rats tolerate higher doses of drugs than do other animals.

The bismuth-sodium tartrate used is said to be a tetrabismuth tartrate and is dispensed as a water-clear solution of 1.5 percent strength in a solution of 25 percent (hypertonic) of

*Sterile, fat-free milk is now available, in ampules, under the name, Lactigen.—Ed.

sucrose containing 2 percent of benzyl alcohol. Two cubic centimeters (0.03 Gm.) of the compound was injected intramuscularly as a single dose, being the equivalent of 0.0221 Gm. of metallic bismuth.

Clinical experimental injections were made in 5 patients with or without anasarca and edema. Usually the dosage of bismuth-sodium tartrate was 0.06 Gm., in two divided doses of 0.03 Gm. each.

The bismuth-sodium tartrate intramuscular injections caused a prompt and well-sustained diuresis in the patients, which far excelled that obtained previously with insoluble and oil-suspended bismuth in other subjects and with merbaphen and also theophylline in the same individuals. This action occurred without demonstrable or systemic reactions and apparently without injury to renal functional efficiency. There was no pain and practically no symptoms.

The greater action of the water-solube bismuth sodium tartrate, as compared with the insoluble and oil-suspended bismuth, was presumably due to more prompt and complete absorption and spreading of the former.

The excretion of bismuth after giving bismuth-sodium tartrate is prompt and more rapid and complete than after the insoluble and oil-suspended bismuth. This is of practical importance in obviating possibilities of harm from the stored bismuth of the latter.

Barbituric Acid Compounds in Obstetric Anesthesia

Dr. J. H. Fields, of Fargo, M.D., reports, in *Anesthesia and Analgesia*, Jan.-Feb., 1929, that the following conclusions have been arrived at after an extensive trial of the barbituric acid anesthetics in obstetric practice:

Barbituric acid anesthesia is without equal in the first and second stages of labor; reflexes are maintained and labor pains are not lessened either in intensity or duration; pulse and temperature remain normal; this anesthetic does not affect the amount of blood loss, and may be given in any stage of labor and maintained as long as necessary; it can be used in toxic conditions, as it does not injure the liver or kidneys, in the doses used; it has only a very slight effect on the infant and no late after-effects have been observed.

Injuries to the Nose

Dr. W. W. Carter, of New York, in *Am. J. Surgery*, Jan., 1929, points out that the common practice of treating a recent injury of the nose (especially in a child) by tightly stretching adhesive plaster across the bridge is about the worst thing that can be done to a macerated nose. Every injured nose should at the time be given treatment intended to forestall the complications that so often follow later.

Healing of bone injuries occurs more quickly in the nose than in any other part of the body. The use of the bridge-splint in the young is impracticable, and endeavor to replace septal fragments (in the case of a fracture) must be by the sense of touch and the use of a small moulding forceps, one blade of which is introduced into the nasal cavity and the other, padded with rubber tubing, rests on the outside of the nose. The fragments are manipulated by the forceps blade and when adjusted can be splinted by a wire splint, such as the author's, introduced into each nasal cavity.

The important fact to remember is that in children the nose has not reached adult proportions and that its normal development depends upon the accurate adjustment of the dislocated segments of the nasal arch and the lining up and retention of the septum in a vertical position.

The importance of apparently trivial injuries to a child's nose is frequently not realized until years later, when a badly deflected septum and flattened nasal bridge can be traced back to it. Hence the necessity of treating every nasal injury with thoroughness and a complete examination.

The Dentist's X-Ray Machine

Writing in the *Dental Students' Magazine*, Feb., 1929, Dr. D. A. Ferguson, D.D.S., of Richmond, Va., gives many reasons why the dentist should possess his own x-ray machine.

Such an apparatus is not merely a financial asset, but a scientific and personal asset; the dentist is able to base his diagnoses on actually determined conditions and there is a personal satisfaction in knowing that one's work is being done with accurate knowledge.

Statements of patients in regard to "roots left behind", etc., in previous extractions, can be checked up; also the condition of teeth to be used as abutments for fixed bridges, the course of roots canals, etc., can be verified.

When a physician refers a patient for oral examination, conditions need not be guessed at as in a clinical examination but an exact report of the x-ray findings can be given and calls for little comment.

A dentist referring his patient to another having an x-ray machine is likely to suggest to the patient that his own dentist is not up-to-date; the same remark may be made in regard to referring patients to an x-ray laboratory; and, besides that, the latter course is usually much more expensive than when the films are taken by the patient's own dentist.

But when two or more dentists occupy the same building, the fitting up of a room as a common x-ray office to be used by any of them is practical and an economy.

The x-ray machine is an asset of which every dentist should take advantage and grasp the opportunity of saving time and energy.

Oxygen Therapy

Dr. Paul Roth, of the Battle Creek Sanitarium Clinical Laboratories, in *Anesthesia and Analgesia*, Jan.-Feb., 1929, states that the amount of oxygen required by the average adult at various ages is approximately equal to the volume of the individual's thumb or in the adult from 15 to 18 cc. per breath.

Failure in the supply of oxygen is always serious and more imminently fatal than when the supply of any other indispensable substance fails.

Oxygen therapy, like artificial respiration, is for the prevention and relief of asphyxia and anoxemia.

Safety in anesthesia depends, to a large measure, upon the prevention of anoxemia or asphyxia by the proper and timely use of oxygen and carbon dioxid inhalation.

Oxygen therapy demands the services of an experienced operator, well acquainted with the operation and control of the apparatus and methods used. It should, furthermore be, supervised by a clinician well acquainted with the significance and symptomatology of anoxemia.

Fire risks and accidental cutting off of the supply of oxygen must be guarded against during the use of oxygen therapy apparatus of any kind, and also in basal metabolism tests, especially with apparatus in which carbon dioxid absorbers are used.

The author's special oxygen therapy apparatus is described.

Calcium Preparations for Undernourished Children

An article in *Amer. Med.*, March, 1929, describes certain experimental work done, by the medical department of the Children's Aid Society of New York City, in regard to the use of certain calcium preparations in groups of undernourished school children.

Three groups of children, of approximately the same ages, all having records of having been classed as malnutritional cases, in three or four previous consecutive periodic examinations, were selected. One group was given tablets of lime and phosphorus. Three tablets were given after breakfast, 3 after lunch and 3 in the afternoon, under supervision. On week-ends the tablets were given at home by the mothers, who cooperated.

The second group was given cod-liver oil and maltine only, one teaspoonful t.i.d.

The third group received neither cod-liver oil nor calcium preparations.

In other respects all children were treated the same way in regard to school lunches, etc.

In the groups where calcium or cod-liver oil and maltine were given, there was a gain in weight in every instance. This gain was apparently greater than natural growth would account for and these children had never showed any considerable (if any) gain previously.

It would seem, therefore, that the administration of calcium is of value in the majority of persistently mal-nourished children, especially in cases where there is associated rickets.

In each case where calcium preparations were used there was an increase in appetite and in most of them general improvement in appearance, etc. Absolutely no untoward effects followed the regular administration of the calcium preparations, and the children took them readily.

Familial Glycosuria

Many cases of familial glycosuria and familial diabetes have been reported in the literature and the condition is attracting increased attention.

In *Ann. Intern. Med.*, Mar., 1929, Dr. H. M. Bowcock, Atlanta, reports the case of a family in which 18 of the 37 members of which who were examined, displayed the presence of a reducing substance in the urine, in the absence of other symptoms of diabetes. Glycosuria was first discovered in the youngest at 22 months of age, and at 78 years in the oldest member.

The condition is present in four generations of this family. The blood and urine response to glucose ingestion has been determined in five members, showing the responses characteristic of mild diabetes mellitus in one case, of cyclic renal glycosuria in two cases and of renal glycosuria in two cases.

Hypertension in Children

In children, different forms of hypertension, persisting for long periods, can occur. Hypertension may be associated with coarctation of the aorta (in which case the elevated pressure is confined to the upper part of the body); with cardiac decompensation; with diseases of the kidneys (in which cases it may be of shorter or longer duration and at times referable to increased intracranial pressure); to an organic cerebral lesion; to socalled "essential" hypertension; or it may be the syndrome of malignant hypertension, described by Keith and others.—DR. S. AMBERG, Rochester, Minn., in *Am. J. Dis. Child.*, Feb., 1929.

Treatment of Burns with Horse Serum

The treatment of burns with horse serum was indicated by Robinson in 1917.

In J.A.M.A., Apr. 6, 1929, Drs. S. R. Monteith and R. O. Clock, of New York, report excellent results in a number of cases of severe burns, by this treatment.

In general, the method consists of a preparatory dressing of the burned area with an antiseptic ointment, then immersing it in warm salt solution, following which normal horse serum is sprayed over the area twice daily. The serum was applied in the cases reported at periods varying from one to several days after the burning. It may be necessary to remove sloughs and devitalized tissue before applying the spray. The authors used a sterile serum containing 0.35 percent cresol, as a preservative.

In the authors' hands, the method yielded far better results than any other method employed by them for the treatment of burns due to fire, hot water or acids. The advantages are: (a) absence of scar; (b) rapid formation of new epidermal tissue; (c) freedom from pain; (d) prevention of infections; (e) elimination of toxemia.

Normal horse serum containing cresol, when sprayed on a burned area, coagulates the exuding tissue plasma and thus provides the healthy cells with physiologic food, so that they can proliferate and form new, healthy epidermal tissue.

After the serum is applied, the wounded surface is protected with rubber tissue, which prevents evaporation and ensures prolonged action of the serum.

In extensive burns, the warm, saline bath may advantageously be given prior to each application of the serum, and in such cases the serum

may be applied three or four times daily. The bath facilitates the removal of devitalized tissue, as well as of toxins, by dialysis. The ointment should be removed before immersion in the warm bath.

Generally, in the case of second degree burns, only a few days are required to bring about healing.

Use of Magnesium Sulphate Intravenously

Magnesium sulphate injections have been used to some extent in the treatment of eclampsia.

An experimental study by Dr. H. J. Stander, of Baltimore, published in *J.A.M.A.*, Feb. 23, 1929, shows that magnesium sulphate, in doses ranging from 0.05 to 0.49 Gm. per kilogram of body weight, administered to dogs either intramuscularly or intravenously, in 10- or 25-percent solution, did not produce any marked changes in the blood or chemical examination, but did produce definite histologic changes in the liver and kidneys (necrosis).

When administered in large amounts, magnesium sulphate is toxic and may produce death. The author considers that, for human beings, the non-toxic dose should not exceed 0.1 Gm. per kilogram of body weight. It should not be administered intravenously in a concentration much exceeding 10-percent, as a concentration of 25 percent proved fatal in some experimental dogs.

Intestinal Parasitism in Philadelphia

With the extension of immigration and of facilities for transportation, intestinal parasitism is becoming more frequent in northern latitudes.

Drs. D. de Rivas and C. A. Fife state, in *J.A.M.A.*, Feb. 23, 1929, that, of 275 adult hospital patients examined in Philadelphia, 3.27 percent showed intestinal parasites; also, of 237 children, 26.5 percent showed parasitic infestation. Of 312 private patients examined, 38 percent were found infested.

The parasites found included amebas, giardia, tricocephalus, hookworm, ascaris, tapeworm, etc.

In view of the increasing prevalence of these parasitic diseases in northern latitudes, greater attention should be given to detailed examinations of feces in gastrointestinal disorders.*

*See article by Dr. A. H. Waterman, on "Use of the Thermos Bottle," CLIN. MED. AND SURG., Nov. 1928, p. 830.—ED.

Serotherapy of Rheumatic Fever

Drs. D. Riesman and J. C. Small, of Philadelphia, report, in *Ann. Intern. Med.*, Jan., 1929, that upwards of 270 patients with rheumatic fever have been treated with antiserum prepared by immunizing horses with the *Streptococcus cardioarthritidis*. Recently a bovine serum has been used which causes less reaction than the equine. A concentrated serum has been prepared, the adequate dose of which ranges from 5 to 15 cc.

As a rule, serotherapy confers only temporary passive immunity; but the authors believe that relapses following serotherapy can be greatly reduced by the use of repeated injections of small amounts of vaccine or of the soluble products of *Streptococcus cardioarthritidis*. The soluble antigen of this microbe, in dilutions of 1:10,000 and 1:1,000, is the agent at present employed for active immunization. The 1:10,000 dilution is used in initial doses of not more than 0.5 cc. and maintained at this amount until no reaction to its injection can be detected. After that the doses are rapidly increased by from 25 to 50 percent of the dose last given. The injections are administered subcutaneously at intervals of from 5 to 7 days. The soluble antigen should be used routinely in patients treated with antiserum, as soon as the period of serum sickness has passed. The use of these measures has, in general, been followed by alleviation of the joint symptoms and decline of temperature. The adequate dosage of antiserum may be administered in fractional doses at intervals of 12 to 18 hours.

The Lead Treatment of Cancer

As a general rule, the clinical use of lead injections in the treatment of cancer, as recommended by Blair Bell, of Liverpool, Eng., has met with adverse criticism.

In *Illinois M.J.*, Jan., 1929, Dr. R. T. Pettit, Ottawa, Ill., reports that he has been using intravenous injections of lead in the treatment of cancer since 1920.

The lead preparation used by Dr. Pettit is a metallic suspension in gelatin. In 227 cases, treated from Nov., 1920, to Nov., 1925, success has followed in about 20 percent. The author is convinced that lead will come to occupy a definite and accepted place in our list of weapons against cancer, especially as a useful adjunct to radiation and surgery.

Rectal Examinations in Labor

All authors agree that more harm than good results from vaginal examinations made during labor. The danger of puerperal infection is in direct proportion to the number of vaginal examinations.

The rectal examination is earnestly recommended to replace vaginal examination. At the Chicago Lying-In Hospital, all obstetricians, interns, nurses and students use the rectal examination in labor. The rectal route for pelvic exploration in labor should be taught in the medical schools and practiced by every physician who attends a labor case. The lives of thousands of mothers could be saved annually in this way.—DR. H. T. BEST, Shreveport, La., in *Tri-State Med. J.*, Jan., 1929.

Gastrointestinal and Respiratory Infective Disorders

Dr. G. R. Pirie, Toronto, in *Canad. M.A.J.*, Jan., 1929, considers the problem of the supposed relationship of gastro-intestinal and upper respiratory disorders to focal infection, especially in children. From his study, the author states that it would seem that this must be a specific infection, in which the symptoms of upper respiratory involvement dominate the picture, in some

instances, and intestinal involvement in others. In practice, infants were seen whose earliest symptoms were diarrhea and vomiting, with a good deal of prostration. After a few days, the throat, which at first appeared quite normal and healthy, would become reddened; an occasional patient would develop otitis media.

In the group of cases studied, with practically similar symptoms, some recovered without any radical treatment; some died and no pus was found in the antra or sinuses; a few were operated upon and no pus was found in the antra. In every instance following operation the child died.

Fungoid Disease

In *Arch. Phys. Therap., X-Ray, Rad.*, Jan., 1929, Dr. A. F. Tyler, Omaha, declares that sporotrichosis is being commonly met with in the United States, especially in the Mississippi Valley. In its treatment, potassium iodide should be given to tolerance and roentgen-ray treatment is helpful. On the ulcer area, a good technic for x-ray dosage is as follows: seven-inch spark gap; one mm. aluminum and leather filter; ten-inch distance and 5 m.a. current for 10 minutes. The dose can be repeated in two weeks. For swollen lymph glands, if subcutaneous, the same technic may be used.

For actinomycosis and blastomycosis, surgery should be employed to remove diseased bone. Potassium iodide is given to tolerance and x-ray dosage sufficient to produce epilation, repeated as often as seems advisable.

Ovarian Dysfunction and Mental Disease

In *Lancet*, Jan. 19, 1929, Dr. A. Danby and K. Sykes report a curious case of confusional insanity, beginning in a woman on the ninth day of a puerperium. This condition continued for several years, but the mental state showed strong exacerbations at certain phases of irregular menstrual cycles; at other times she was apparently quite rational.

Ultimately, a right salpingo-oophorectomy was done; the left ovary was partly cystic and this cystic part was resected. Following the operation the mental disease disappeared and has not recurred.

The irregularity of the menstrual function in this case was a clear reflection of ovarian dysfunction, as proved by the pathologic findings. Presumably the derangement had thrown the endocrine balance out of gear, which caused a psychopathologic reaction.

Laryngitis

Dr. P. A. Harry, in the *Prescriber*, Feb., 1929, recommends for the general treatment of acute laryngitis a brisk purge at the onset of the attack, combined with rest in bed and a light diet. Absolute vocal rest and cold compresses externally must be ordered. The temperature of the room is best at 65°F. and it is helpful to have the air moistened by means of steam from a bronchitis kettle. The addition of a teaspoonful of the compound tincture of benzoin (or a suitable substitute) to the water in the kettle has a sedative effect. Antiseptic throat sprays and nasal douches are also useful. All irritants to the throat should be forbidden.

In chronic laryngitis, all local cavities and sinuses should be inspected, a suitable non-irritating diet ordered and tobacco and alcohol prohibited. Local treatment consists of the use of stimulating inhalations and astringent paints. Oleum pini sylvestris or oil of cubebs, in a 1:20 dilution, should be used in vapor form. Frequent application to the vocal cords of nitrate of silver, chloride of zinc, perchloride of iron or of powdered alum will effect a cure. Change of air and complete voice rest are also helpful.

Where the laryngitis is due to syphilis, tuberculosis or other disease, special measures will, of course, have to be taken.

Fractures of Both Bones of the Leg

Dr. J. M. Hitzrot, of New York, in *J.A.M.A.*, Jan. 26, 1929, divides fractures of both bones of the leg into four groups:

1.—Fractures which, with any suitable treatment, will show a satisfactory result. These include fractures with little or no displacement, those with but slight angular deformities and subperiostal and spiral fractures in young children.

2.—Spiral fractures and those with marked displacement, and the simpler forms of compound fractures.

3.—Compound fractures which require special treatment for best results and which may give indifferent results with the best treatment.

4.—Fractures in which the prognosis will be poor, even with the best treatment.

Dr. Hitzrot believes that every physician should know how to handle the first group and to recognize readily the fractures that fall into the other groups. For these latter fractures, he should be trained to "splint 'em where they lie"; in the axis of the limb, to avoid unnecessary examinations, and to transport them, properly splinted, to a place where special treatment can be carried out by a properly trained man. The practitioner will show the best judgment by avoiding treatment in the severe cases unless his training, surroundings and equipment are suitable.

The Tuberculin Test During Disease

Dr. W. B. Wherry and his associates made tuberculin tests in 351 cases in the Cincinnati General Hospital. The tests were made on children during the acute stage of various diseases and also during convalescence. The findings, as given in the *Ohio St. M.J.*, Mar., 1929, show that a positive skin tuberculin reaction is approximately two to four times as frequent during the convalescent stage as during the acute febrile stage of such diseases as measles, diphtheria, scarlet fever, varicella, poliomyelitis and the like.

There is some evidence that the phenomenon is due to a depression of skin response rather than an absence of it and that larger doses of tuberculin may cause a positive reaction to occur during the febrile stage of these diseases.

Readings of tuberculin reactions during acute diseases should be continued for several days, as the skin response may be delayed longer than 48 hours.

Protein Therapy of Ocular Changes in Multiple Sclerosis

In a small series (10 cases) of patients showing diversified ocular changes due to multiple sclerosis, non-specific protein therapy, in the form of a typhoid and paratyphoid vaccine, was applied, on the assumption that the disease and its effects were due to an infectious agent.

Although definite conclusions in regard to the effect of the treatment on the visual changes cannot be formed until later, yet there can be no doubt that general physical improvement is established by it. It is believed that this method of treatment will prove its real worth if it can be instituted before the cardinal symptoms have appeared.—Drs. G. W. Hall and R. C. Gamble, Chicago, in J.A.M.A., Jan. 26, 1929.

Bursitis About the Heel

Dr. A. Gottlieb, Los Angeles, in *Radiol. Rev.*, Feb., 1929, suggests that bursitis as a cause of pain about the heel should always be borne in mind. The absence of bone spurs in a radiograph is no proof that the bursal sacs are in a healthy state; on the other hand, the presence of exostoses does not indicate that the patient is suffering pain and needs to have them removed by operation.

Conservative treatment consists in the application of physical measures and in providing relief from pressure upon the inflamed area. Operative treatment consists in exposing the inflamed region and in curetting and thoroughly removing all the pathologic tissues.

Scarlet Fever Treated with Behring Serum

Drs. W. Sauer and J. Schmitz, in *Muench. med. Wchnschr.*, Oct. 26, 1928, give the results in 130 out of 640 cases of scarlet fever in children, treated with Behring's serum. In the majority, the serum was administered within the first four days of the infection. The total 640 cases were classed as mild, medium or severe and it was only in the medium or severe cases that showed toxic symptoms that the serum was given.

The authors injected children under 4 years' old with 25 cc. of the ordinary, or with 10 to 15 cc. of the concentrated serum; children between 4 and 8 years received 40 to 50 cc. of the ordinary or 20 to 30 cc. of the concentrated serum. In severe cases these doses were increased from 50 to 100 percent. Only one injection was given. No injections were given in cases in which previous serum injections had been made.

Of the toxic cases treated with serum a favorable antitoxic effect was observed in 34 percent. This was accompanied by a fall in temperature and a general improvement within a few hours. In another 32 percent there was an antitoxic effect, but no further influence on the course of the disease, and new toxic symptoms soon appeared. In the remaning 34 percent, the serum had apparently no effect.

The authors conclude that cases complicated from the beginnng by serious lymphadenitis, otitis or angina are refractory to the serum. The antitoxic effect of the serum does not appear to be exerted after the first 48 hours following the symptoms of the disease. Late complications are entirely uninfluenced by serum treatment.

Repository Injections

Parenteral injections have, in general, the disadvantage that the drug action is temporary.

In J.A.M.A., Apr. 6, 1929, Dr. C. B. Strauch, of McGregor, Minn., calls attention to a method whereby a prolonged and uniform effect can be obtained by the parenteral introduction of a therapeutic agent.

A water-in-oil emulsion method is employed, which permits the prolongation of the effect of water-soluble drugs over days and weeks. Absorption of the water is obviated by the addition of certain substances (metacholestearin and myricin). For example, to 10 cc. of a concentrated and sterile solution of a drug (epinephrin, insulin or pituitary extract) are added sterile olive oil, 2.5 cc.; sterile metacholestearin, 0.2 Gm.; and sterile myricin, 0.3 Gm. The components are combined and transformed carefully into a sterile and stable water-in-oil emulsion. From 1 to 5 cc. of the total volume is injected, intramuscularly; the result is a very gradual release of the drug injected.

The two substances mentioned, metacholestearin and myricin, termed emulgator and protective substance, respectively, have such an effect on the surface energy of the oil that they regulate the separation of an oil-suspended pulverous, as well as water-dissolved medicament, so that, after injections, the drugs are progressively released in minute quantities.

A number of experimental and clinical combinations of various medicaments in these repository injections are described. Thus, 25 patients, with such conditions as pneumonia and cardiac collapse, were given epinephrin repository injections, arranged to have an action lasting from 24 to 48 hours.

Though using injections many times the usual strength, in no case were abscess, acute inflammation, pain or other sign of injury or overdosage observed, either in man or animals.

The athor believes that the respository injection method opens up a new area in injection therapy.

Sulphur in Protein

It was long assumed that the protein molecule included a sulphur-containing amino acid. Cystine, a derivative of protein, contained sulphur, but there were reasons for believing that it did not represent the sole form in which sulphur is built in to the structure of protein. This belief was justified a few years since when Mueller isolated from casein a new sulphur-bearing amino acid.

Recently Barger and Coyne, of the University

of Edinburgh, have succeeded in synthetizing the substance isolated by Mueller, to which they have given the name **methiatone.** This adds another link to our knowledge of the structure of the complex protein molecule.—Editorial, *J.A.M.A.*, Mar. 2, 1929.

Clinical Value of Electrocardiography

In an article in the *Military Surgeon* for March, 1929, Dr. Wm. J. Tindall gives a brief and simple discussion of the electrocardiogram and states his conclusions regarding this aid to diagnosis, as follows:

1.—Electrocardiography is the one method of heart study which, in many cases, gives incontrovertible evidence of heart muscle disease.

2.—Electrocardiography will enable the physician to distinguish between pulse irregularities that are not serious, as in premature contractions, and those which are indicative of grave heart muscle fault, as auricular fibrillation and heart block.

3.—In persons who have none of the usual clinical evidence of heart defect and who are up and about, electrocardiography may establish the presence of a serious heart disturbance, and thus furnish information for heart care and treatment which could easily result in the prolongation of life.

4.—Electrocardiography is a definite aid in arriving at the prognosis in an affection of the heart.

5.—Electrocardiography is a guide in the selection of heart drugs.

6.—Electrocardiography gives information of the physiologic condition of the ventricular muscle.

7.—It is possible, by written heart records, to detect heart affections that cannot be recognized by any other method of examination, despite the practiced skill of the physician.

8.—Electrocardiography is necessary in any examination where a knowledge of the physical fitness of the individual is of the first importance.

The Thyroid and Manganese Treatment

The thyroid and manganese treatment, which was first described in the British medical press in 1925, consists in using the two oxidizing agents, thyroid substance and potassium permanganate, which when acting together are known to bring about detoxicating changes, in the blood and tissues of the organism, by stimulating, reinforcing and accelerating oxidative processes therein. The potassium permanganate is given by rectal injection and the thyroid substance by mouth.

Dr. H. W. Nott, of Guildford, England, in *Amer. Med.*, Feb., 1929, reports that this treatment has been particularly effective in pneumonia, and has produced cures in asthma, rheumatoid arthritis and a number of other conditions. Toxemias and disorders of metabolism are often corrected by it. An elaborate detailed report on the whole subject will soon be published.

Dr. Nott has found that some forms of epilepsy are also amenable to this treatment. He mentions some cases of chronic epileptic patients in whom the seizures were checked while the treatment was continued. In these cases the treatment was begun by two daily injections of one pint of the standard solution of permanganate (1 grain—65 mgm.—to 1½ pints —750 cc.—of hot water), administered slowly with funnel and tube, which were given after an action of the bowels had relieved the rectum of its contents. By lying still the patients had been able to retain the fluid completely as a rule. These diurnal injections were continued for 8 days and the patients took a tablet of thyroid, ½ grain (siccum grain 1/10), morning and night. The injections were continued for the next two weeks at the rate of once a day and they were reduced to half a pint while only one dose of thyroid was given daily. For the next three weeks they had an injection every third day with a dose of thyroid the same day, but after this period injections were reduced to once a week with an extra one occasionally when constipation was noticed. Aperients were avoided as far as possible.

The case of an unconscious epileptic dog is also mentioned. This animal was subject to periodic clonic convulsive seizures lasting for several hours, but a dose of potassium permanganate per rectum rendered the dog conscious in a few seconds, shortly after the beginning of such a fit.

Pathology of Miscarriage in Obstetrics

A pathologic study of the products of conception in 104 abortions is reported by Dr. Jas. L. Huntington in *Am. J. Obst. and Gynec.*, Jan., 1929.

The study shows that endometritis and retroversion play a minor part in the etiology of abortions, and that defective germ plasm is the chief cause of abortion.

Defective germ plasm may exist in perfectly healthy patients, but it is much more likely to occur where the patient is over- or under-nourished or poisoned from within or without.

The author makes a plea for a more extended pathologic study of the products of conception following abortion.

Dry Labor

In *Am. J. Obst. and Gynec.*, Jan., 1929, Dr. Margaret Schutze, of San Francisco, states that dry labor (premature rupture of the membranes) occurred in approximately 10 percent of 6,500 cases.

Labor begins in 24 hours or less, in 90 percent of cases.

Castor oil and quinine were successful in inducing labor in over 80 percent of the cases in which they were used.

The average length of the first stage of labor was considerably shorter than that usually accepted for normal, in both multiparae and primiparae. The second stage was not influenced.

Dry labors which were prolonged, and also the cases of dry labor developing dystocia requiring

serious operative interventions, showed other abnormities, as malpresentations, contracted pelves, etc.

There was no maternal mortality in 600 cases, but maternal morbidity was slightly higher than in the unselected cases.

Cord inflammations were twice as frequent as in the unselected cases but occurred almost exclusively in prolonged labors.

In abnormal labors, the fetal risk is considerably increased by premature rupture of the membranes.

Results with bag treatment were very poor.

The "Three T's" and the "Reform Diet" in Ophthalmology

Dr. G. H. Bell, of New York, in *M.J. and Record*, Feb. 6, 1929, says the "three t's" (teeth, tonsils and toxemias of the intestinal tract) are responsible for a large number of infectious diseases of the eye. The necessity for the removal of diseased teeth and tonsils goes without saying.

As regards intestinal toxemias, Dr. Bell says that the prevailing methods of combining proteins and carbohydrates at the same meal are wrong. He gives the following rules for a reformed diet:

1.—Do not mix heavy starches and proteins at the same meal;

2.—Do not eat fresh fruit and heavy starches at the same meal;

3.—Do not combine fats with concentrated proteins.

The heavy proteins include meats of all kinds, fish, shell fish, duck, chicken, turkey, eggs and cheese.

Over 50 cases of glaucoma, in addition to numerous cases of other ocular infections, have been treated following the method of the "three t's."

Sexuality, Reproduction and Internal Secretion

In J.A.M.A., Mar. 23, 1929, Oscar Riddle, Ph.D., of Carnegie Institution, Station for Experimental Evolution, Cold Spring Harbor, N. Y., presents evidence that the sexes are fundamentally and causally founded on two different rates of metabolism. It is a sustained increase in metabolic rate that probably has accompanied and accomplished the change of females into males and a sustained decrease in metabolic rate that has probably accomplished the transformation of males into females.

This implies that sex reversal is an accomplishable phenomenon, dependent upon the metabolic rate. Chromosomal differences normally decide these two grades of metabolism throughout the early and most sensitive periods of development, and thus the chromosomes normaly decide the sex of the organism; but when the experimentalist overrides this chromosomal influence he accomplishes sex reversal.

As a corollary to the proposition, it follows that sex is as truly a hereditary character as is anything whatever about the organism.

Without entering into the author's demonstrations in regard to sex differences and the control of sex, it seems entirely probable that a recognition of the primary relation that metabolism bears to sex will be both interesting and useful to physicians. Thus, it has already been experimentally established that the transplantation of anterior lobes of the pituitary into infantile mice and rats effects a definite premature sexual function. Also those endocrine glands, whose increations affect metabolism—the thyroid and suprarenals—become so closely identified with the sex functions that they may be regarded as intimate parts of the sexual system.

In this short abstract only the main idea put forward in Dr. Riddle's article can be touched upon: Briefly, it is that sex is a character which can be controlled and reversed, depending upon the metabolic rate; by altering the metabolic rate sex can be affected and in the embryo actually reversed; that many different types of individual can be made out of identical germinal material; that, by a pure hormone of anterior pituitary, infants can be made sexually mature; finally the possibility that hereditary factors can be overcome at will.

Intracutaneous Salt-Solution Test in Thyrotoxicosis

When 0.2 cc. of 0.85 percent salt solution is injected intracutaneously into the flexor surface of the forearm, or other areas, there follows a raised wheal about the point of injection which persists for 60 minutes or so in normal persons. In cases of edema there is a decided reduction of the disappearance time. In various other diseases, tests showed considerable decrease or increase in the disappearance time.

In *Am. J. Med. Sc.*, Feb., 1929, Dr. J. M. Mora, of Chicago, gives the result of the salt-solution test in 42 cases of thyrotoxicosis, before and after operation. There was a definite decrease in the disappearance time of the wheal, preoperatively. After operation, with the return to normal of the basal metabolism rate and the patient's general condition, the disappearance time also became normal.

In a general way, the greater the toxemia the less time was required for the wheal to disappear.

The disappearance time of the intradermically injected saline solution paralleled the basal metabolism as an index of the severity of the thyrotoxicosis.

Iodine and Exophthalmic Goiter

In *Minnesota Med.*, Feb., 1929, Dr. S. F. Haines, Rochester, Minn., states that following the administration of iodine in sufficient doses, to patients sufferering from exophthalmic goiter, certain changes are brought about with predicable frequency. In most cases, 30 minims (2 cc.) of Lugol's solution daily, are enough to control the symptoms: during crisis, the dose should be 50 to 100 minims (3.3 to 6.6 cc.) daily. Progress of exophthalmos is stopped, the stare disappears and the characteristic psychic status and movements are abolished. If the patient is in crisis, the vomiting will be controlled within from 24 to 48 hours.

Patients are not infrequently observed who have been taking iodine constantly for several months or a year. They give a history of the usual exacerbations and remissions of the common symptoms of exophthalmic goiter but none of crisis, if sufficient amounts of iodine have been taken. In the case of those who have taken sufficient iodine for a long time and then stopped it, symptoms associated with the abnormal thyroid usually appear within a few days. Patients who have gone into crisis after stopping the iodine may control it by resumption of iodine.

Patients suffering from infectious processes, particularly respiratory infections and exophthalmic goiter, are strikingly benefited by iodine. Iodine, in controlling the crisis status, permits rapid recovery from the infectious process unless it is too extensive or too far advanced.

Dr. Haines emphasizes two points:

1.—That in any case of exophthalmic goiter, it is of greatest importance completely to control the disease as quickly as possible; almost invariably this cannot be done by iodine alone.

2.—The uninterrupted use of iodine should be urged until patients recover from the disease.

The Muscle Factor in Fractures

In fractures, of the long bones especially, fragments will follow the pull of muscles and be displaced more or less as the muscle action is exerted close to or distant from the fragment end. Therefore, for functional results, the muscles must be considered, and after-treatment commenced as soon as possible.

Massage is perhaps the best treatment and should be a sort of gentle stroking, gradually gaining in depth and strength. At no time in the treatment should massage cause any pain to the patient. Active movements can also well be begun early, wherever possible, in the warm-water bath.—Editorial, *Internat. J. Surg.*, Feb., 1929.

Bromide Treatment of Epilepsy

In *Arch. Neurol. and Psychiat.*, Mar., 1929, Dr. O. Diethelm, Baltimore, states that phenobarbital checks epileptic convulsions, but that it cannot cure the patient or clear up the mental symptoms. It is anticonvulsive, but not antiepileptic.

Bromide has an influence on the whole epileptic picture; the attacks as well as the mental symptoms clear up. In the modern treatment, a combination of phenobarbital and bromide is frequently prescribed.

Treatment is started with slowly increasing doses of bromide, phenobarbital being administered at the same time in an amount which more or less controls the attacks. After having established a sufficient storage of bromide in the body, an endeavor is made to keep a constant bromide-chloride equilibrium. This is obtained through determination of the bromide replacement of chloride, according to which one can alter the dosage. A diet low in salt (about 5 Gm. a day) increases the influence of bromide. Observing the effect of the bromide and noting improvement, the phenobarbital is gradually decreased (1 grain—.065 Gm.—each week) and it is eliminated entirely or continued only in small amounts. The amount of bromide should not be diminished before the patient has been free from attacks for 1 or 2 years, and patients should stay under observation for several years.

Patient's Consent to Operation

An article by Dr. John B. Carnett, of Philadelphia, in *M.J. and Record*, Apr. 3, 1929, gives the legal aspects of consent to operation.

A surgeon must obtain the consent of an adult patient; this may be verbal or written. Most hospitals now obtain the patient's consent, signed, on a form which is filed with the other case records. Surgeons should satisfy themselves about this before operating. The practice in different hospitals varies. In some the wording is indeterminate; in others the form includes, not only an expressly mentioned operation but any other operations, the necessity for which may become manifest on surgical investigation of the patient. If the consent of the patient is limited to a clearly expressed operation, the surgeon is legally bound to that, except that he is, by law, authorized to proceed with an additional operation if this is necessary to save the patient's life.

In the case of a minor, the consent of the parent is necessary; no other adult relative can take the parent's place unless by authority duly delegated by the parent.

In the case of an emergency, where delay would endanger the life of the patient, the surgeon is permitted, by law, to operate without consent, but it would be well in such cases to have a colleague agree with the surgeon as to the necessity for immediate action.

In the case of mentally incompetent persons, the legal aspects are about the same as in the case of minors.

As a general rule, hospitals as "charitable institutions not run for profit" are legally exempt from suits for damages. It would seem reasonably just that surgeons, physicians and others attached to such institutions should also be exempt, especially in the case of charity patients, but such is not the law.

Aseptic Protein Shock in Nephritis

Dr. G. Kolischer, of Chicago, in *J.A.M.A.*, Mar. 23, 1929, recommends aseptic protein injections and the production of protein shock in nephritic patients. The procedure is based upon the therapeutic possibilities of the reticulo-endothelial system and the results actually obtained by administration.

It is a specific functional quality of the macrophages of the system to imbibe, to store and eventually to neutralize toxins; this toxophagic activity is stimulated by cellular absorption of the proteins injected into the patient.

The specific efficacy of aseptic protein shock in nephritis is evidenced by the disappearance of blood from the urine, by the prompt reduction in number and eventual absence of casts in the urine and by the return of chemical determinations of the blood toward the normal level.

Under usual antiseptic precautions, 5 cc. of the patient's own blood, in infants, and 10 cc. in adolescents and adults, is aspirated and immediately re-injected into the gluteus muscle,

twice within 24 hours, on two successive days, and then for a week await results, following with injections on alternate days, if deemed desirable. If hemotherapy is not advisable, casein may be used; one-third of the 1 cc. ampule of the 5-percent casein emulsion is injected hypodermically; but in this case reaction should subside before repetition of the injection.

In only 4 of 67 cases of well-defined nephritis did autohemotherapy fail to produce any appreciable relief of the symptoms.

Alcohol Injections in Vascular Diseases

For generalized senile arteriosclerosis, varicose ulcers, chronic indolent ulcers of unknown etiology, endarteritis obliterans, Raynaud's disease, chronic arthritis deformans and pregangrenous conditions generally, a periarterial injection of alcohol is recommended in preference to sympathectomy or ramisection. From 1 to 2 cc. of 95-percent alcohol is injected into the nerve-bearing tissue, after exposure of the femoral artery in the lower two-thirds of Scarpa's triangle. The injection is made so that a collar-like ring of alcohol surrounds the vessel, but its wall is not entered. There is an immediate change in pulse volume, without vasoconstriction below the injection.—Dr. C. F. McClintic, Detroit, in J.A.M.A., Mar. 23, 1929.

Actinic Therapy of Mental Patients

In *M. J. and Record*, Dec. 19, 1928, Drs. J. A. Jackson and L. R. Chamberlain give the results of actinic treatment of institutional mental patients.

A summary of the cases treated shows that, of the 73 patients, 45 were of the manic depressive group. Of these latter, 26 gained physically, 5 showed no change and 14 lost in weight. Twenty-two (22) gained mentally, while 23 showed no gain.

The remaining psychoses are in insufficient numbers to make any deductions of value.

The authors conclude that actinotherapy is useful in the treatment of mental patients; that its expense is comparatively small; that it is of value in the local treatment of furuncles, bedsores, pustular skin diseases, vague myalgias; while the benefit of general irradiation is reflected in increased metabolism and a sense of well-being of the patients. In the long-drawn-out winter months, actinotherapy is especially a good substitute for heliotherapy.

Pruritus

Dr. H. N. Cole, of Cleveland, in *Ohio St. M.J., Feb.*, 1929, declares that essential pruritus is an evidence of more or less general disturbance, and may be divided into hematogenous, chemical and neurogenous types.

Pruritus accompanies the ingestion of many drugs. It is, for instance, often the first symptom of an arsenic intoxication, of a lymphomatous disease, or a significant sign of abdominal tumor.

The neurogenous group would comprise those cases seen in connection with Basedow's disease, chorea, neurasthenia, psychoses, pregnancy, etc.

Pruritus is, of course, an accompaniment of many skin diseases.

The treatment of pruritus will depend upon its type and on its cause. In the case of a generalized pruritus, the local treament, to remove the subjective symptoms, may be varied. The author has found a plain calamine lotion beneficial, or one combined with 0.5 percent menthol. Often a 0.3 percent menthol in *unguentum aquae rosae* is of service, and a 2-percent aluminum acetate solution is of great value. If intestinal parasites are present their removal may cure the trouble, and if the cause is a lymphoma, roentgen ray treatment will be of service.

The Prevention of Gallstones

In *Canad. M.A.J.*, Feb., 1929, Dr. E. S. Ryerson, of Toronto, offers his opinion that there are three outstanding causes which contribute to the tendency to develop gallstones: (1) biliary stasis, (2) hypercholesterolemia, and (3) infection of the biliary tract.

To obviate biliary stasis, exercises which increase respiratory effort are excellent. Also, it has been demonstrated that biliary stasis may be decreased by the use of magnesium sulphate, in a concentrated solution, in the duodenum. This will succeed by oral administration. The patient should take the solution on rising in the morning, before breakfast, so graduating the size of the dose that diarrhea is not produced. The amount will vary from half a dram upward.

Hypercholesterolemia is best controlled by diet. Articles, such as the yolk of eggs, cream, liver, brains and animal fats, should be eliminated from the diet (especially in pregnant women) or reduced to a minimum.

Any focal infection in the common situations may be the source of infection of the biliary tract. Urotropin (methenamin), in large doses, has been recommended as a disinfectant of the biliary tract and the author suggests giving it a trial.

The important thing in gall-bladder disease is prophylaxis and to recognize disease processes in the biliary tract in their initial stages.

NEW BOOKS

Warthin: Old Age

OLD AGE. *The Major Involution. The Physiology of the Aging Process. By Aldred Scott Warthin, Ph.D., M.D., LL.D., Professor of Pathology and Director of the Pathological Laboratories in the University of Michigan, Ann Arbor. Illustrated. New York: Paul B. Hoeber, Inc.* 1929. *Price* $3.00.

Dr. Warthin's book is timely, as an antidote to much of the complacent, pseudo-scientific gibberish that we hear on all sides and even read in reputable journals concerning the possibilities of extension of human life far beyond the usual limits.

Dr. Warthin treats human life on a broad biologic and physiologic basis. He follows it from infancy to senescence in all its stages; shows how inevitable the different biologic changes are, judged from the cyclical changes in cells; and deduces that, quite apart from pathologic considerations, the very nature of things demands that, within a given span, physiologic changes must result in senectetude. Moreover, he shows that all that hygiene and medical science has been able to accomplish has been to increase the number of those who have reached the normal time of senectetude. The span of human life has not been extended but a greater number of persons have been enabled to approximate the limits of this span, thus increasing the average length of human life.

The reading of this book will open up different vistas according to the viewpoint of the reader. From a philosophic outlook, old age may be considered as a time when the reasoning powers and judgment are ripened and perhaps usually more active and valuable, from the human standpoint, than in the age of full maturity, because, as Dr. Warthin shows, the mentality is about 20 years younger in development than physical development; that is to say that the mental powers are still vigorous and even expanding when physical power has been long on the wane.

Another point which Dr. Warthin raises is, what is the advantage to the individual or race from increasing the number of human dependents in the period of their second childhood? This is a matter for the economists.

Finally, Dr. Warthin asserts that the newfangled ideas of rejuvenation by hormones, either by surgical or other methods, brought into prominence during recent years, are fallacious. There is no rejuvenation, no re-integration, only a temporary re-erotization. In fact, such artificial measures are harmful in that they may disturb natural physiologic processes and hasten dissolution.

Dr. Warthin's philosophy of old age is not pessimistic. He shows that the riper years have their own proper joys and compensation. As Cicero says: "Whatever is natural must be accounted good." If there is a philosophy of old age it might be summed up by saying that it is worth while to live the active periods of life correctly so that the declining portion may be lived sanely and happily.

This is a book the reading of which will give much pleasure and profit, both from the medical and human standpoints.

Loewenberg: Diagnosis in Internal Medicine

DIAGNOSTIC METHODS AND INTERPRETATION IN INTERNAL MEDICINE. *By Samuel A. Loewenberg, M.D., F.A.C.P., Assistant Professor of Clinical Medicine, Jefferson Medical College; Assistant Physician to the Jefferson Hospital; etc. Illustrated. Philadelphia: F. A. Davis Company.* 1929. *Price* $10.00.

The appearance of a new book, viewing an old subject from a different angle, is always interesting.

Dr. Loewenberg, while observing the present-day tendency to extreme specialization in medicine, also shares the opinion, which is being more or less freely expressed by medical critics, that a good knowledge of general medicine is a necessary prerequisite to successful specialism. His manual on diagnostic methods and interpretations in internal medicine may be considered as containing the essentials of knowledge regarding the recognition of disease which every general practitioner should have.

The volume, which is handy in size and not burdened with unnecessary details, aims to give instructions on the various methods of examining patients, descriptions of normal findings, enumeration of pathologic conditions with their physical signs and the reasons for such signs. It may, therefore, so far as it goes, be termed a textbook of clinical diagnosis and it is an excellent one at that.

The descriptions are clear and lucidly expressed, the illustrations, which are profuse, really illustrate, and apparently have been chosen with a high degree of discrimination; we do not remember to have seen in any book better representations of the technic of examinations, especially of percussion and auscultation.

The chapters on examination of the respiratory and cardio-vascular systems seems to us to be particularly good and much may be learned from them by even an experienced practitioner.

Of course it is to be clearly understood that this is only a descriptive manual. The real knowledge on which every general or other practitioner must rely can be acquired only by actual clinical

experience, but Dr. Loewenberg's book will teach one what to look for in the clinic and exactly how to proceed in order to find it, if it is there.

There are 18 chapters; 15 cover regional pathology and 3 are given to subjects connected with the technic of examinations and allied matters.

The work can be recommended to those who are entering upon clinical study, and those in practice can learn many things from it which, perhaps, they never thought of.

Schizophrenia (Dementia Precox)

SCHIZOPHRENIA (DEMENTIA PRAECOX). *An Investigation of the Most Recent Advances, as Reported by The Association for Research in Nervous and Mental Disease. The proceedings of the Association; New York, December 28th and 29th, 1925 (Edited, and Published April, 1928). With 61 Illustrations. New York: Paul B. Hoeber, Inc. Price* $7.50.

The Association for Research in Nervous and Mental Disease, which includes the leading neuropathologists and psychiatrists of the United States, has published a number of monographs on special subjects within the scope of their fields of work: This monograph on schizophrenia is No. 5. The book consists of a number of papers, with discussions, representing clinical, experimental and theoretical aspects of the much debated symptom-complex designated by the title.

There are 9 sections: Historical survey; statistics; heredity and constitution; etiology; special investigations; language and art productions; pathology; prognosis; and treatment.

From the general practitioner's standpoint, perhaps the most interesting phase of the dementia precox question is that of its etiology. Of the 6 papers presented under this heading, perhaps the most attractive will be found to be those of Dr. H. S. Sullivan on emotional stress and impasse, and Dr. K. A. Menninger's contribution on schizophrenia with epidemic encephalitis. One cannot, however, feel that any pathognomonic factor or factors have as yet been arrived at which even approximate satisfaction in explaining the occurrence of the puzzling syndrome of schizophrenia; although the possibility of a toxic condition affecting the mentality through the cerebral channels of association seems to tend in that direction. However, so far as pathologic changes in the brain would support this view, they still remain to be demonstrated.

Although this monograph will be of particular interest to the neurologist and psychiatrist, the general research aspects should engage the attention of all students of medical sciences and progress.

International Medical Annual

THE INTERNATIONAL MEDICAL ANNUAL. *A Year Book of Treatment and Practitioner's Index. Edited by Carey F. Coombs, M.D., F.R.C.P., (Medicine), and A. Rendle Short, M.D., B.S., B.Sc., F.R.C.S. (Surgery). Forty-seventh Year, 1929. New York: William Wood and Company. Price* $6.00.

The busy practitioner cannot devote the time necessary for more than a casual glance through the current periodical medical literature. Even those journals which present well-written summaries of the principal new contributions to medical science and practice cannot cover the whole ground comprehensively. Hence, the necessity of a yearbook like the International Medical Annual to present the really important yearly progress in each branch of medicine in an orderly sequence, so that one can obtain a consecutive and comparative story of advancement.

The 1929 volume of the Annual is equal in every way to its predecessors. The contributors are, all of them, leading men in their specialties in England. The editing and bookwork leave little to be desired; and although the type is necessarily small (to economize space and keep the book portable) yet it is quite legible.

Hertzler: Thyroid Gland

DISEASES OF THE THYROID GLAND. *By Arthur E. Hertzler, M.D., Surgeon to the Halstead Hospital. With a Chapter on Hospital Management of Goiter Patients. By Victor E. Chesky, M.D., Associate Surgeon to Halstead Hospital. Second Edition, Entirely Rewritten. St. Louis: The C. V. Mosby Company.* 1929. *Price* $7.50.

The first impression one receives from looking through Dr. Hertzler's contribution on diseases of the thyroid gland is of one who, while aware of what is being done elsewhere, is more inclined to be guided by his own personal observations in studying these conditions than to accept the conclusions arrived at by others. This is, of course, an admirable attitude when the observer, as in the present case, is seeking to discover the true basis and evolutional history of pathologic processes concerning which the last word has not yet been said.

A large part of Dr. Hertzler's observations are original, especially in regard to goiters of different types. A particular advantage is that his circumstances have enabled him to follow the postoperative history of most of his patients for a great many years (in some cases for 30 years or more) and, although his material is not great in extent, the prognostic value of different therapeutic procedures and the incidence of recurrence have a good deal of light thrown upon them. From this clinical point of view, therefore, the work is especially valuable.

Dr. Hertzler hopes that the chief interest in his book will center on his findings in the pathology of the thyroid gland, particularly of the colloid. The ample histologic illustrations which he gives should certainly engage the attention of pathologists and surgeons. These studies form an excellent example of what operating surgeons may do to advance the study of pathology in general, even when their opportunities are meager.

There are 10 chapters covering anatomy, symptomatology, diagnosis, treatment, etc. The illustrations are exceptionally good, especially those depicting normal and pathologic histology.

In the treatment of most goiters, Dr. Hertzler clearly favors early surgery, concerning the ultimate results of which he is quite optimistic.

We consider this an excellent presentation of the present-day aspects of thyroid disease. It is less a monograph for the surgeon than for the general practitioner. The first edition appeared in 1922 and the present edition brings the subject up-to-date from that time.

New York City Department of Health: Studies from the Bureau of Laboratories

COLLECTED STUDIES FROM THE BUREAU OF LABORATORIES, DEPARTMENT OF HEALTH, CITY OF NEW YORK. *Dr. William H. Park, Director. Volume X, 1920-1926. Issued by the Bureau, gratis on request.*

This is the first volume of collected studies of the Bureau issued since 1919. It embraces papers published in various journals from 1920 to 1926 inclusive.

The very large amount of material available in a great metropolitan area like New York City enables more comprehensive epidemiologic studies to be made of infective diseases than are possible in more limited areas. Hence a vast quantity of no doubt very valuable laboratory statistical observations and data have been accumulated and tabulated. This applies especially to such diseases as diphtheria and epidemic encephalitis. Perusal of the contents of this volume shows that much original work has been done here, as indeed in a number of the more common important infectious diseases.

Incidentally, one is struck by the magnitude of the public health work in a large city, as well as by its intricacies. One can only compare it with the medical supervision of an army.

This collection of studies should be of great interest to all who are in any way associated with public health work, and especially to those doing pathologic laboratory work.

Croskey: History of Blockley

HISTORY OF BLOCKLEY. *A History of the Philadelphia General Hospital From Its Inception, 1731-1928. Compiled by John Welsh Croskey, M.D., Philadelphia, Pa. Illustrated with 15 Half-Tone Plates. Philadelphia: F. A. Davis Company.* 1929. *Price* $10.00.

The Philadelphia General Hospital is one of the most famous in the United States. The names of many men illustrious in American medical history are associated with that institution, and its alumni have distinguished themselves in many distant fields of endeavor.

The history of the Philadelphia General Hospital is connected with the earliest eleemosynary efforts of the Society of Friends in Philadelphia, dating from Penn's settlement. In this way the hospital is the oldest institution of its kind in the country. It was not, however, until 1834, after several peregrinations, that the hospital found its final resting place in the township of Blockley, now an integral part of the city of Philadelphia and the site of the present stately pile of buildings. To those associated with this hospital in its early days it was familiarly known as Blockley and it is in this sense that Dr. Croskey treats the history of the Philadelphia General Hospital as the "History of Blockley."

Blockey was, in its early history, more than a hospital in the present-day sense; it was a hospice —a place where the poor as well as the sick, including the insane, were taken care of.

The present bulky volume recites the history of the continuous institution from 1684, when the first lots were purchased, down to the present day. The greater part of the volume is devoted to biographies of the various medical men who were connected with the hospital.

The "History of Blockley" is in reality, to a great extent, a history of Medicine in Pennsylvania, and thus it has more than a local interest or an interest to those associated with the institution. Running through its pages, the medical historian will find much data that may be used to illustrate the progress of medical science and art in the United States.

Hollen: Psychic Verses

FLOWERS OF THOUGHT. *By Aura May Hollen. Hollywood, Calif.: The Keats Publications, Box* 336. 1929. *Price* $2.00.

The 170 compositions comprised in this collection should be read in connection with the pamphlet, "The Case of Aura May," by Henry Hollen, M.D., which can be procured from the Keats Publications for ten cents, and which sets forth the manner in which the verses were written. Briefly, the report is as follows:

The author, a normal American woman, in good health, lost her mother some eight years ago and, thereafter, became interested in spiritism and other occult studies, during the pursuit of which she developed certain psychic powers, notably that of automatic writing and the clair-audient receipt of communications.

In 1928 she established direct communication with her mother, who had been a person of keen and varied artistic sensibilities, but who had never received literary or any other form of art training, and, in July of that year, the author, who had never written two lines in rhyme or rhythm and had read very little poetry, began to "receive" verses, complete, purporting to come from her mother, this faculty (the composing of verse) having been developed after she left her physical body.

The especially interesting thing about this collection is that the verses are just such as one would expect a person such as the author's mother is described as being, would write. They deal, chiefly, with simple, homely matters, or, if the subject would have been outside her scope during physical life, the viewpoint is such as one would expect her to have had. All are cheerful and pleasant and a number of them are obviously planned to carry some moral lesson.

The rhymes, as a rule, are sound and the meter, in general, is smooth and regular. There has been, apparently, no effort at polishing the verses at all—they stand just as originally received—nor are any of the subtleties of the trained verse writer in evidence. While the subject matter of the compositions covers a fairly wide field, there is little or no variation in the form: Practically every stanza in the book consists of eight lines of alternating four and three

iambic feet, with the second and fourth and the sixth lines rhyming. More than fifty percent of the verses consist of just three such stanzas. There are no sonnets, quatrains or any of the more complex or sophisticated verse forms.

As poetry, this volume contains nothing especially remarkable, though many of the verses are restful and helpful; but as a psychic document it is of great interest and importance and it can be read in that light, with much profit, by all who are interested in psychism and metaphysics.

Freund: Diseases of the Joints

GELENKERKRANKUNGEN. *Einführung in die Pathlogie und Therapie. Von Dr. med. Ernst Freund. Mit 88 Abbildungen im Text. Berlin und Wien: Urban & Schwarzenberg.* 1929. *Price* Mk. 32.

The author deals especially with the clinical pathology of joint diseases. The arthritides of infectious and metabolic origin are especially well described and illustrated by case reports. Tuberculous joint diseases and those due to endocrine deficiency have a fair amount of space devoted to them. There is, however, little or no mention of bone and joint defects due to vitamin deficiency and the excellent work done in the United States during the last decade or more, in all phases of joint diseases, seems to have escaped the notice of the author. However, it should be said that only about 70 pages are devoted to treatment. To the physician who reads German the book may be recommended, so far as it goes.

Military Medicine

REPORT ON FOURTH INTERNATIONAL CONGRESS OF MILITARY MEDICINE AND PHARMACY, *Warsaw, Poland, May-June,* 1927. *By Commander William Seaman Bainbridge, M.C.-F., United States Naval Reserve, Member of Permanent Committee, Delegate from the United States. Menasha, Wis.: The Collegiate Press, George Banta Publishing Company.*

This is the report of the official United States delegate to the Congress.

The principal contributions presented at the Congress are given, translated into English, as well as the discussions.

The work of these Congresses is not confined to military medicine but also includes the care of the sick and wounded in times of peace, in fact any subject within the scope of general medical science may be brought up.

Runting: Chiropody

PRACTICAL CHIROPODY. *By E. G. Runting, F.I.S.Ch. A Founder and the First President of the Incorporated Society of Chiropodists. Third Edition. St. Louis: The C. V. Mosby Co.* 1929. *Price* $3.00.

This is an English book (third edition) reprinted in the United States. It gives very practical descriptions of the minor foot ailments and their treatment, coming within the scope of chiropodists. The author appears to have had a long practical experience of various foot troubles and clearly describes what he has found the most efficacious treatments and the reasons why.

Although intended for chiropodists, yet any physician will find in this little volume a number of useful and valuable hints. Corns, callosities, bursites, etc., are very real and constant infirmities for those who suffer from them and there is no reason why any medical man should not be competent to deal with them effectively. It is a superstition of medical practice to consider the treatment of such ills as beneath the dignity of a regular practitioner, who should, on the contrary, be prepared to do whatever may be necessary to minister to his patient's health and comfort.

Furfey: Social Problems of Childhood

SOCIAL PROBLEMS OF CHILDHOOD. *By Paul Hanly Furfey, of the Department of Sociology, Catholic University of America. New York: The Macmillan Company.* 1929. *Price* $2.25.

Childhood has always had its social problems, but, in our complex civilization, they are, perhaps, more acute than ever before. Fortunately, this twentieth century, which has seen such tremendous strides in the progress of mechanical invention, has also been contributing largely to our understanding of the complications arising from the multiplication of machines and the tendency for human beings to huddle together in large cities.

The purpose of this volume is to set before the reader a brief history of child welfare work and a succinct statement of the present status of this work, in its various branches. It is not a book which will be especially valuable to ordinary parents, but is intended for teachers of all sorts, welfare workers, lawyers and students of sociology. Such physicians as fall in these classes will find it a useful book of reference.

Kurtzahn: Minor Surgery

KLEINE CHIRURGIE. *By Professor Hans Kurtzahn, Berlin, Germany. Berlin & Wien: Urban & Schwarzenberg.* 1929. *Price* 22 Mk.

A complete work, beautifully illustrated and practical. For the general practitioner, who wishes to have command of minor surgical procedure of the routine type and who reads German, this volume is valuable. It is complete and very thorough.

M. T.

Potter: Cancer and Chronic Diseases

A NEW TREATMENT OF CANCER AND CHRONIC DISEASES. *By La Forest Potter, M.D. Boston: Richard G. Badger, Publisher.* 1929. *Price* $2.00.

The author's attitude may be judged from the following excerpt: "It is believed that a major cause of cancer and chronic disease is imbalance between the voluntary and involuntary nervous system, resulting on the one hand in hypertension and bodily and mental deformity and, on the other, a disturbance of the colloidal balance of

the protein particles of the blood, manifesting specifically in intestinal toxemia and through it invading the whole system."

The foundation of the new treatment rests on a co-ordination of the physical, mental and spiritual energies of man, applied on four lines of attack:

First; cleansing the system of toxic food matter.

Second; restoration of body equilibrium.

Third; the supplying of the proper endocrine substance.

Fourth; a new psychologic and metaphysical approach.

The endocrine substance is to be obtained from "Glanoids," presumably made by the author.

The author claims to have cured the diseases named by these means! Perhaps other physicians may succeed also? Strange things do occur.

This book cannot, however, be recommended to anyone as a rational contribution to the literature of cancer; and the combination of metaphysics, handled in a superficial and theatrical manner, with the advertising of a preparation whose formula is not stated is not a happy one.

Gleason: Nose, Throat and Ear

A MANUAL OF DISEASES OF THE NOSE, THROAT, AND EAR. *By E. B. Gleason, M.D., LL.D., Professor of Otology, Medico-Chirurgical College Graduate School of Medicine, University of Pennsylvania. Sixth Edition Thoroughly Revised. Philadelphia and London*: W. B. *Saunders Company.* 1929. *Price* $4.50.

It is now more than twenty years since Dr. Gleason's book on diseases of the nose, throat and ear first appeared, and the fact that it has reached the sixth edition speaks well for its value and popularity. In the present edition all new matters necessary to bring the subjects treated into line with the latest developments have been added.

The work was planned to supply the needs of students and general practitioners. It, therefore, deals only with the essentials of pathologic conditions coming within the scope of rhinology, laryngology and otology; on the other hand, such essential facts are necessary to the general practitioner who may at any time be obliged to perform a tracheotomy or intubation or deal with a mastoiditis.

Following the preliminary general chapters, the work is divided into sections dealing respectively with the nose, pharynx, larynx, and ear and, finally, there is a chapter on useful formulae.

The book is very suitable for the library of a general practitioner and its price is reasonable.

Romanis & Mitchiner: Surgery

THE SCIENCE AND PRACTICE OF SURGERY. *By W. H. C. Romanis, M.A., M.B., M.Ch., Cantab., F.R.C.S. (Eng.), F.R.S. (Edin.), Senior Surgeon in Charge of Out-patients, Surgeon to the Isolation Block, and Teacher of Practical Surgery, St. Thomas's Hospital, etc.; and Philip M. Mitchiner, M.D., M.S. (London), F.R.C.S. (Eng.), Surgeon in Charge of Out-patients, Teacher of Operative Surgery and Demonstrator of Anatomy, St. Thomas's Hospital, etc. In 2 volumes. New York*: *William Wood & Company.* 1929. *Price* $12.00.

These two volumes remind one, in general make-up, of the work of Rose and Carles. The material is well systematized; the illustrations are excellent; the index exceptionally well arranged; and the reproduction of the x-ray plates better than one usually finds—they depict what they are intended to show.

The student will find this book valuable for reference. This also applies to the general surgeon who wishes ready information on general surgical subjects, without being forced to read a great deal of text.

M. T.

Steindler: Spine and Thorax

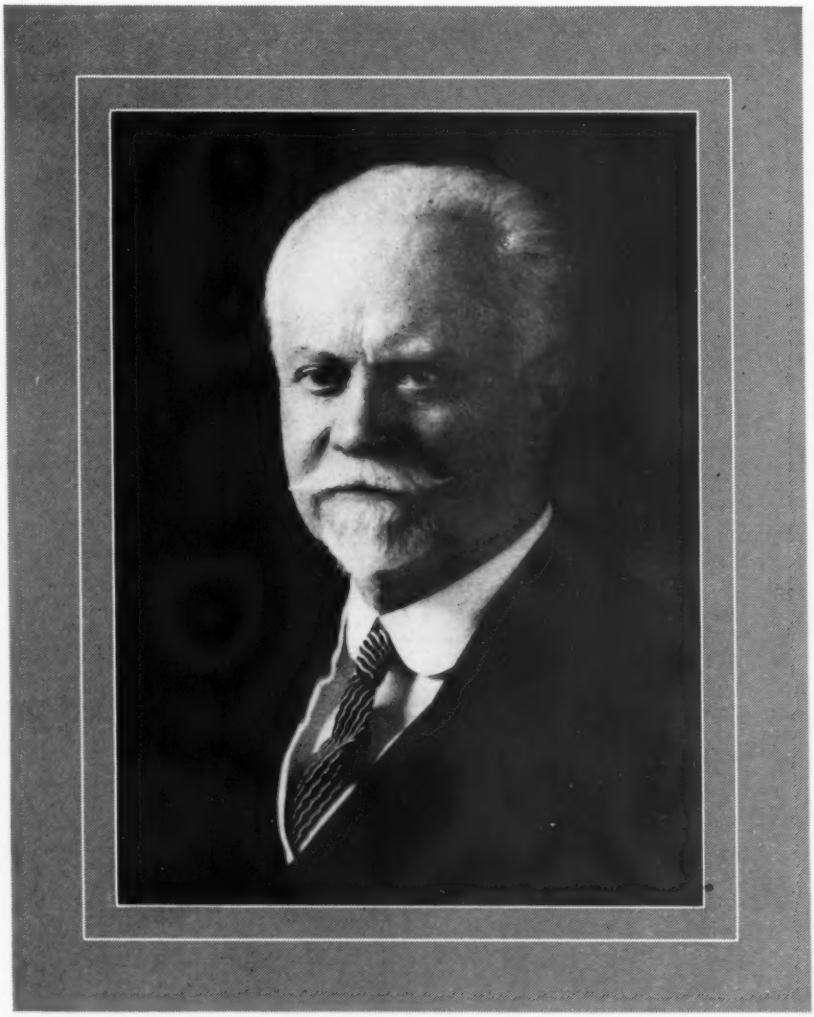
DISEASES AND DEFORMITIES OF THE SPINE AND THORAX. *By Arthur Steindler, M.D., F.A.C.S., Professor and Head of the Department of Orthopedic Surgery of Iowa State University Medical School, Iowa City, Iowa. St. Louis, Mo.: The C. V. Mosby Company.* 1929. *Price* $12.50.

This work is for the specialist and for those who wish to make a special study of maladies affecting the spine and thorax. It is profusely illustrated and is divided into ten chapters and an appendix. It takes up, systematically, the pathologic conditions affecting the spine and thorax, beginning with congenital deformities and ending with tumors of the spine. In the appendix a synopsis of the anatomy of the spine is given.

Dr. Steindler's compilation of the book is admirable. There is a rather thorough bibliography at the end of each chapter. The volume contains a great deal of information which one does not find in general texts on surgery. To complete one's library and to have a ready reference book on diseases of the spine and thorax this volume is truly worth while and can be highly recommended.

M. T.

MEDICAL NEWS



Charles E. De M. Sajous, M.D.

On April 27, 1929, he being in his seventy-seventh year, Dr. Charles Eucharist De Medici Sajous—"the Father of Endocrinology in America"—was relieved of his sufferings (from angina pectoris and other complications), which had continued for many months, and passed to his rest.

While Sajous was preceded in his study of the ductless glands by Claude Bernard, Brown-Séquard and some others he was the

first to write a general treatise on endocrinology—"The Internal Secretions and the Principles of Medicine,"—the first volume of which appeared in 1903.

While especially known, in his later years, in connection with endocrinology, it must not be forgotten that he was an encyclopedist of note and among the foremost American medical editors and writers.

Scientific medicine has sustained a great loss in the closing of this exceptionally rich and productive life, and the friends of this indefatigable worker, earnest and sincere student and charming gentleman will feel a deep sense of personal bereavement, for those who knew him could not fail to love, as well as admire him.

Wants Position as Locum Tenens or Assistant

If one of our readers is going away for the summer and wants to leave someone in charge of his practice, or is so busy that he needs a helper, he may be able to find what he is looking for by writing to Dr. Vincent C. Lentini, c/o Louisville City Hospital, Louisville, Ky.

No Opening at Barrington, Ill.

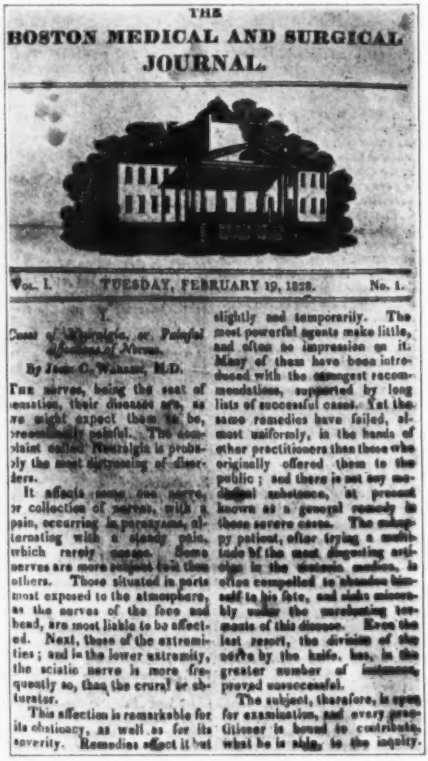
Barrington, Ill., is now, if anything, oversupplied with physicians. It appears, in fact, that the information that another doctor was needed there, which appeared in CLIN. MED. & SURG. for April, 1929 (p. 290) was in error. We sincerely hope that no one has been seriously inconvenienced by this notice, which was published in good faith upon authority which was considered entirely reliable.

Dr. S. W. Kelley Passes

On April 20, 1929, the long and useful career of Dr. Samuel W. Kelley, of Cleveland, Ohio, came to a close, he being in his seventy-third year.

Dr. Kelley was one of the pioneers of pediatrics and was deeply interested in medical organization and in literature. He was president of the Medical Library Association at the time of his passing. His best known scientific work was his book, "Surgical Diseases of Childhood," now in its third edition. Several other volumes of prose and poetry also came from his pen, as well as contributions to current medical literature.

The profession can ill afford to lose men of Dr. Kelley's versatility.



THE
BOSTON MEDICAL AND SURGICAL
JOURNAL.

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I.

Cases of Neuralgia, or, Painful Affections of Nerves.

By John C. Warren, M.D.

THE nerves, being the seat of sensation, their diseases are, as we might expect them to be, exceedingly painful. The complaint called Neuralgia is probably the most distressing of disorders.

It affects some one nerve, or collection of nerves, with a pain, occurring in paroxysms, alternating with a steady pain, which rarely ceases. Some nerves are more subject to it than others. Those situated in parts most exposed to the atmosphere, as the nerves of the face and head, are most liable to be affected. Next, those of the extremities; and in the lower extremity, the sciatic nerve is more frequently so, than the crural or obturator.

This affection is remarkable for its obstinacy, as well as for its severity. Remedies affect it but slightly and temporarily. The most powerful agents make little, and often no impression on it. Many of them have been introduced with the strongest recommendations, supported by long lists of successful cases. Yet the same remedies have failed, almost uniformly, in the hands of other practitioners than those who originally offered them to the public; and there is not any medical substance, at present known as a general remedy in these severe cases. The unhappy patient, after trying a multitude of the most disgusting articles in the materia medica, is often compelled to abandon himself to his fate, and sinks miserably under the unrelenting torments of this disease. Even the last resort, the division of the nerve by the knife, has, in the greater number of instances, proved unsuccessful.

The subject, therefore, is open for examination, and every practitioner is bound to contribute what he is able, to the inquiry.

Medical Journalism a Century Ago

Among the pioneers of medical journalism was the *Boston Medical and Surgical Journal*. First published in 1819, as the *New England Journal of Medicine and Surgery*, the name was changed and a new serial numbering begun in 1828. The name was changed back to the *New England Journal of Medicine* in 1928.

The picture herewith is a reproduction of the first page of this journal as it appeared with the new numbering, in 1828.

Send For This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE AND SURGERY, North Chicago. Ill., will gladly forward request for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

When requesting literature, please specify whether you are a doctor of medicine, dentistry, medical student, a registered pharmacist, or a nurse.

S- 2 Your Prestige and Profit. 8-page booklet. The Carroll Dunham Smith Pharmacal Co.

S- 3 Storm Binder and Abdominal Supporter. 4-page folder by Dr. Katherine L. Storm.

S- 5 Ethical Medicinal Specialties. 8-page booklet. A. H. Robins Co.

S- 7 The Cure of Cystitis, Pyelitis and and other Inflammatory Conditions of the Urinary Tract. Chicago Pharmacal Co.

S- 17 An Index of Treatment. Burnham Soluble Iodine Co.

S- 45 Vera-Perles of Sandelwood Comp. Paul Plessner Co.

S- 47 Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.

S- 49 The Calcreose Detail Man. Maltbie Chemical Co.

S- 50 Outwitting Constipation. Standard Oil Co.

S- 56 Regaining Health. How Science Can Guide You! The Fleischmann Company.

S- 58 The Pharmacology of Cod Liver Oil. Smith, Kline & French Co.

S- 85 Ultraviolet for Health. Hanovia Chem. & Mfg. Co.

S- 95 Everything for the Sick. Lindsay Laboratories.

S-103 The Electron, June, 1929. McIntosh Electrical Corporation.

S-112 Atophan after more than Fifteen Years of ever expanding use, etc. Schering & Glatz.

S-116 Hemo-Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc.

S-120 Building Resistance. William R. Warner & Co., Ltd.

S-156 Siomine (Methenamine Tetraiodide). Pitman-Moore Company.

S-169 The Quartz Lamp, June, 15, 1929. Hanovia Chemical & Mfg. Co.

S-176 The Hormone, June — 24 pages and cover, published bimonthly. The Harrower Laboratory.

S-189 High Blood Pressure—Treatment with Theocalcin. E. Bilhuber, Inc.

S-194 Fracture Book—1928 Edition. DePuy Mfg. Co.

S-196 "Facts Worth Knowing." Intravenous Products Co. of America, Inc.

S-197 Bulletin. Illinois Post Graduate Medical School, Inc.

S-199 Activin in Non Specific Protein Therapy. Ernst Bischoff Co.

S-204 News and Views from French Lick. French Lick Springs Hotel Co.

S-211 The Etiology and Treatment of Hay Fever—Hay Fever Antigens. The National Drug Co.

S-218 Eupinol. A distillate produced at a special temperature from the resinous wood of Pinus Palutris. The Tilden Company.

S-222 Autumn Leaves — Guiatonic. Wm. R. Warner & Co., Inc.

S-227 The Romance of Digitalis. The Hoffman-La Roch Chemical Works, Inc.

S-228 Ye Olden Day Cough Physic. The Tale of a Drug which Columbus gave to Isabella. The Hoffman-La Roche Chemical Works, Inc.

S-231 The Action and Use of Castor Oil. The Wm. S. Merrell Company.

S-232 Pectoral Balsam Merrell. Wm. S. Merrell Company.

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S-235 A Real Problem Solved (Clinical Medicine). The Health Cigar Co.

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S-247 Colitis, A Common and Increasing American Disease. The Battle Creek Food Company.

S-249 Diathermy in the Treatment of Pyorrhea and other Oral Diseases. McIntosh Electrical Corporation.

S-250 Relieve that Pain with Infra Red Rays. McIntosh Electrical Corporation.

S-255 Mellin's Food Biscuits. Mellin's Food Company.

S-256 The Modern Way of Giving Digitalis. Upsher Smith Co.

S-258 Prophylaxis. August E. Drucker.

S-262 Journal of Intravenous Therapy, June, 1929, Loeser Laboratory.

S-268 Eat Uncle Sam Health Food. Uncle Sam Breakfast Food Co.

S-269 Special Course No. VI. Traumatic Surgery. Illinois Post Graduate Medical School, Inc.

S-270 Pharmaceuticals of Established merit. E. Bilhuber, Inc.

S-271 The Intestinal Flora. The Battle Creek Food Company.

S-277 Cicatrical Resolvent. Fibrolysin. Merck & Co., Inc.

S-278 The Story of the Modern Headache Remedy. The Cause of Weak Hearts and Sudden Deaths. Keasbey & Mattison Co.

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S-286 Ultra Violet Therapy in Your Office. A. S. Aloe Co.

S-292 Acidosis and Infection—Alka-Zane. William R. Warner & Co., Inc.

S-297 Prescription Folder. Burdick Corp.

S-300 Useful Every Day. E. Bilhuber, Inc.

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S-302 Alkarhein in Gastro-Intestinal Disorders. The Wm. S. Merrell Co.

S-309 The Jones Basal Metabolism Unit. Geo. W. Brady & Co.

S-310 Conclusions from published research on the value of Ceanothyn as a hemostatic. Flint, Eaton & Co.

S-314 What is the Treatment of Choice. Burdick Corporation.

S-315 May, June, July Hay-Fever. The Arlington Chemical Company.

S-318 Blood Clinical and Laboratory Diagnosis. A book of 160 pages by Henry Irving Berger, M.D. Battle & Company.

S-319 Rational Treatment of Colonic Stasis. Schellberg Mfg. Corp.

S-323 Medical Pocket Quarterly. Reed & Carnrick.

S-324 In Health Building There Is a Vital Difference between Vibration and Manipulation. Sanitarium Equipment Co.

S-325 O-Thu-Gen, Description and Properties. O-Thu-Gen Laboratories, Inc.

S-326 Iodine Suppositories, Supposodines. Loeser Laboratory.

S-327 The Intravenous Administration of Bismuth. Loeser Laboratory.

S-328 The Technic and Development of Intravenous Therapy. Loeser Laboratory.

S-330 Service-Suggestions. Victor X-Ray Corporation.

S-331 The Red Book of Physical Therapy Appliances. Victor X-Ray Corporation.